

MAY 25 1948

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# MOTOR AGE

APRIL 1948

A CHILTON PUBLICATION





IT'S A WET RING  
IT REALLY CONTROLS OIL  
AND IT CAN'T CLOG

Steel-Vent is a "wet" ring. Its greater surface area helps give it greater oil delivering capacity. It carries this extra oil freely to the cylinder walls to provide generous wall lubrication all the way up.

Steel-Vent keeps oil always under control with patented features that give it high unit pressure with lower total tension. Ample drainage capacity easily handles extra oil.

Steel-Vent can't clog. Its side-opening spacer operates against a moving segment with a "breathing" action that breaks up and flushes away clogging particles of carbon and gum.

That's the Steel-Vent story—the simple, understandable reasons why Steel-Vent gives longer service life in any job, rering or rebore.

HASTINGS MANUFACTURING CO.  
HASTINGS, MICHIGAN

HASTINGS LTD., TORONTO  
U. S. PAT. 2,148,997



# HASTINGS

STEEL-VENT PISTON RINGS

TOUGH on Oil Pumping  
GENTLE on Cylinder Walls



MAY 25 1948



*Before*  
**YOU TUNE-UP MECHANICALLY  
... TUNE-UP CHEMICALLY!**

Before you tune-up an engine, make sure it is "Chemically Clean". Just add Permatex Toon-Oyl to crankcase oil, warm up engine and let it idle. Sludge and carbon-gum binders that interfere with the smooth operation of valves, piston rings, oil lines and oil screens, will be loosened, disbursed and dissolved!

Then, you'll have a "Chemically Clean" engine, ready for your accurate mechanical adjustments!

**R<sub>x</sub>**  
ADD 1 QUART OF  
PERMATEX  
TOON-OYL TO 5  
OR 6 QUARTS OF  
ANY TYPE OF  
MOTOR OIL IN THE  
CRANKCASE

**PERMATEX COMPANY, INC., BROOKLYN 29, N. Y.**

*When writing to advertisers please mention Motor Age.*

*'THAT CUSHIONY FEELING LASTS LONGER WITH MARFAK!'*



## MARFAK means

### satisfied customers and repeat business

**T**ODAY, more and more car-owners are insisting on Marfak. They've learned that this superior Texaco chassis lubricant gives them the protection they want . . . makes their cars ride smoother and quieter . . . handle easier . . . last longer.

They've read this convincing story in the Texaco color ads in leading national magazines. They've heard about it from other motorists and on the popular coast-to-coast Wednesday night *Texaco Star Theater* radio program.

Why don't you cash in on the profit-making demand for Marfak? A simple demonstration gets your customer's car on the lift—and once he has had a Marfak job he'll be back regularly.

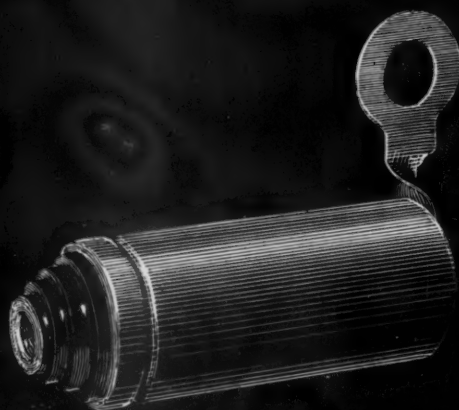
Talk to your Texaco representative today—telephone the nearest of the 2500 Texaco Distributing Plants, or write to The Texas Company, 135 East 42nd St., New York 17, N. Y.

THE TEXAS COMPANY



**You can make more money with**





Fame doesn't come easily. You have to do more than just hang out a repair sign. Sometimes, you have to do pretty near the impossible to spread your good name as a mechanic . . . make a '38 model sound like a new car . . . breathe new life into a frozen-dead motor . . .

That's why it's so important to know about ignition parts that are equal to tough jobs. Take the Blue Streak condenser. You ought to know we inspect every single

part . . . don't miss one in a million. You ought to know there are *thousands more* miles of "life" in Blue Streak condensers.

And next time you're at your jobber's, you ought to put in a supply. Because they're sturdier; because they last for more miles than you imagine condensers should last; because their performance insures your reputation . . . makes customers say: "*Great mechanic that Joe.*"

*better your business...buy Blue Streak*

STANDARD MOTOR PRODUCTS, INC., LONG ISLAND CITY 1, NEW YORK

APRIL, 1948

When writing to advertisers please mention Motor Age

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MOTOR AGE, Vol. LXVII, No. 5. Published monthly by Chilton Co., Chestnut & 56th Sts., Phila. 39, Pa. Entered as Second-Class Matter December 27, 1935, at the Post Office at Philadelphia, Pa.; Under the Act of Congress of March 3, 1879. In case of Non-Delivery Return Postage Guaranteed. Subscription price: United States, Mexico, United States Possessions, and all Latin-American countries, \$3.00 per year. Canadian and foreign, \$5.00 per year; single copies, 40 cents.





GENUINE STROMBERG PARTS...

MOTOR TUNE-UP DATA...

COMPLETE REPAIR INSTRUCTIONS...

PARTS LIST...

*All in one  
Time-Saving Kit!*

NEW CARBURETOR PERFORMANCE  
COMES OUT OF THIS KIT!

## FOR STROMBERG CARBURETORS

Carburetor repair jobs go faster, are more thorough, and keep your customers happier when you use the familiar yellow box shown above. Precision-made Stromberg\* parts make the job easier, and are your assurance of a finer performing carburetor. Do every Stromberg job the Stromberg way—it's easier, and more profitable. See your Bendix-Stromberg distributor or your local jobber.

\*REG. U.S. PAT. OFF.

**BENDIX PRODUCTS DIVISION of**  
SOUTH BEND 20, INDIANA



# It's New - REVOLUTIONARY - DYNAMIC!

## THE MOOG DYNAMIZER

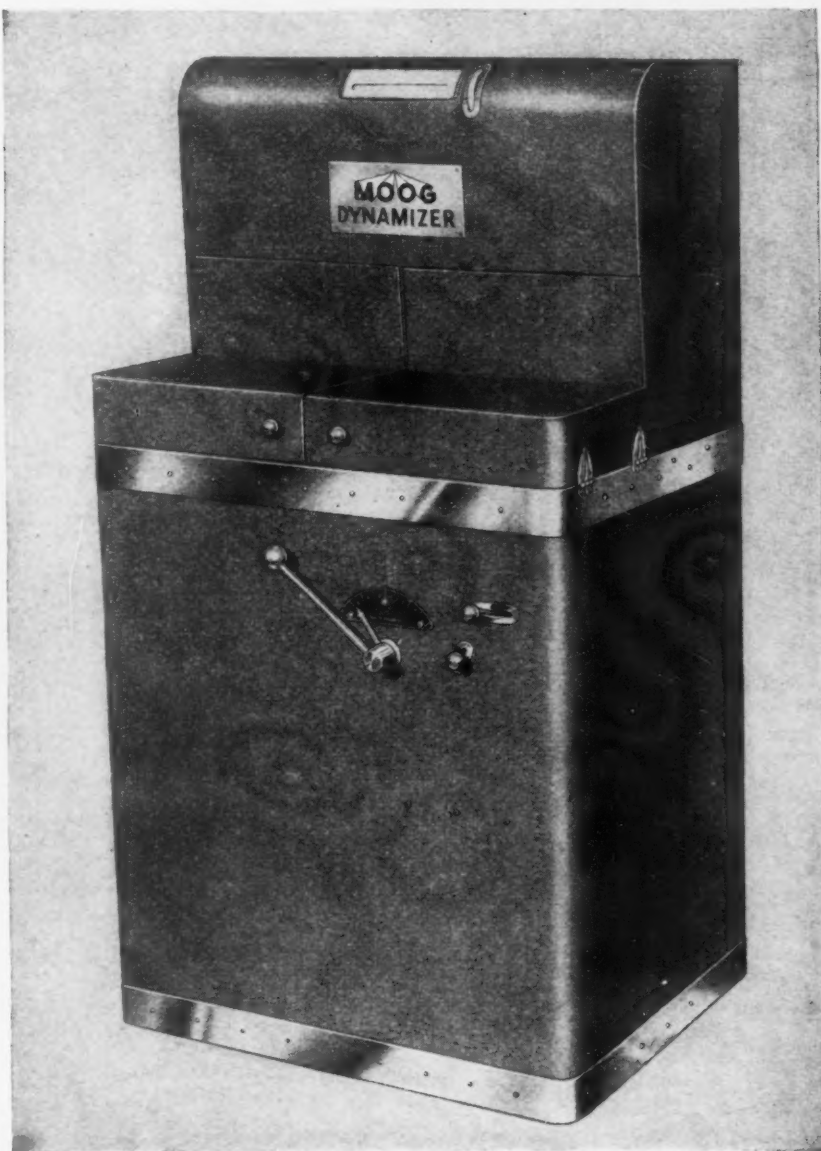
The Piston Expanding Method that restores collapsed pistons...all types.

Now you can be sure that the pistons you put back in worn motors, after a re-ring job, are restored to normal size to properly carry the rings and give Full Power results!

Moog Distributors have the Moog Dynamizer and can Dynamize collapsed pistons...bring them back to correct size...permanently...efficiently...economically. The Moog Piston Expanding Method is different and expands all types of pistons scientifically and accurately. A demonstration will amaze and convince you. Write us today for name of nearest Moog Distributor.

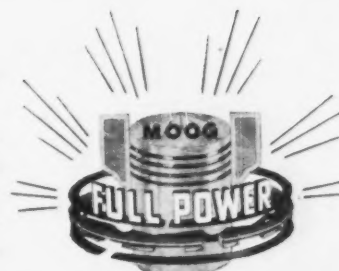
### MOOG PISTON RING CO.

Division: MOOG INDUSTRIES, INC.  
ST. LOUIS, MO.



### America's Fastest Growing Ring Line!

To insure Full Power results in motor reconditioning install Moog X-Plus Piston Rings and have worn pistons restored with the Moog Dynamizer. That's the way to eliminate costly comebacks.



COPYRIGHT 1948 M. I. I.

# Years OF SMOOTH ENGINE PERFORMANCE IN **10 MINUTES**

## The Time it takes to install an Airtex Gasoline Filter Damper

- Removes dirt, lint, water and other foreign matter from the gasoline.
- Prevents motor failure due to carburetor clogging and flooding.
- Acts as a shock absorber in the fuel line, over-

coming fuel pump pressure pulsations and delivering a smooth, even flow of fuel to the carburetor.

- Porous metal filtering element and self-cleaning action.

### THE ONLY FILTER EQUIPPED WITH PULSATION DAMPER

**AIRTEX AUTOMOTIVE DIVISION**  
Chefford Master Mfg. Co., Inc.  
FAIRFIELD ILLINOIS



SELL AN AIRTEX FILTER-DAMPER WITH EVERY CARBURETOR OR FUEL PUMP JOB.

# AIRTEX

## GASOLINE FILTER with Pulsation DAMPER



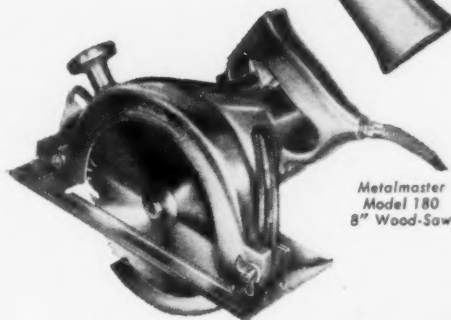
# Team up

## with **BRADFORD TOOLS**

For Better Performance—Longer Tool Life



Metalmaster  
Model 48  
1/2" Drill



Metalmaster  
Model 180  
8" Wood-Saw



Metalmaster  
"Kool Grip"  
7" Disc Sander

**I**N SHOPS where each tool investment must produce profits, Bradford Electric Tools are paying off. Each Bradford Tool model combines skillful engineering with top-quality materials. Their superior design results in smoother, easier operation for both worker and tool.

A background of more than 100 years in the manufacture of precision machine tools—lathes and special purpose drilling and tapping machines—stands behind the production of Bradford Tools. "Precision Since 1840" is Bradford's motto—make it your guide for getting the most from your tool investment.

Contact your nearby Bradford distributor for complete information on Bradford Tools designed to your work requirements. He will show you how Bradford Tools will make profits for your shop.

**PORTABLE ELECTRIC DRILLS • SAWS •  
DISC SANDERS • BENCH & PEDESTAL  
GRINDERS • BUFFERS • POLISHERS**

← **WRITE FOR THIS NEW COMPLETE  
CATALOG OF BRADFORD ELECTRIC TOOLS**



**G**IVES complete specifications on all models of Bradford portable electric tools; bench and pedestal grinders, buffers, polishers; tool attachments and accessories. This new Bradford Catalog will help you select the tools you need for time-saving production.



Precision Since 1840

**THE BRADFORD MACHINE TOOL CO.**

Distributors in All Principal Cities

663 Evans Street . . . Cincinnati 4, Ohio



**Y**ES SIR, the Pedrick Piston Ring Service sign hanging outside your shop can mean good fortune . . . and plenty of it! It tells vehicle owners that you do piston-ring jobs. It identifies you as a Pedrick Franchise Dealer, which means that you get *everything* you need to build profitable engine repair business. You get the right product . . . "Heat-Shaped" piston rings, backed by the most liberal guarantee in the industry. You get the right promotion . . . national advertising, plus effective local sales aids that become *your* salesmen. The shop identification sign itself is a real business-builder because it is featured in Pedrick national advertising where it is seen by hundreds of vehicle owners right in your area. It makes Pedrick advertising *your* advertising!

Remember also that your Pedrick jobber can give you many advantages not readily available

elsewhere: credit, machine shop service, prompt delivery, technical information, and parts for all makes of vehicles.

WILKENING MANUFACTURING Co., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Co. (Canada) Ltd., Toronto.

**Pedrick**

**"HEAT-SHAPED"**  
**PISTON RINGS**  
in guaranteed ENGINEERED SETS

For 28 Years; Supplier of Piston Rings to Leading Vehicle and Engine Manufacturers



## EYE-COMPELLING **PACKAGING** That Sells **MERCHANDISE!**

Cam Shaft Bearings  
Connecting Rod Bearings  
Main Bearings  
Aluminum Pistons  
Piston Pins and Bushings  
Valves and Valve Guides  
Valve Springs and Retainers  
Water Pumps and Kits  
Motor Mounts  
Tie Rod Ends  
Shackle Sets  
King Bolt Sets  
Coil Action Kits

• Topflight replacement parts deserve topflight packaging.

Speedway Replacement Parts come to you in a smart blue-and-yellow package that snaps right out and demands attention. Maybe you don't appreciate the importance of attractive packaging, but experience shows that it produces extra sales. In addition, this package identifies the entire Speedway line, and because we have cut to a minimum of different sizes, shelf space is saved and the Speedway family resemblance is maintained.

Display your Speedway packages prominently . . . and watch them catch the customer's eye!

**SPEEDWAY PRODUCTS CORPORATION**  
MANUFACTURERS OF REPLACEMENT PARTS  
1400 EAST 20TH STREET • INDIANAPOLIS 7, INDIANA



**PRODUCTS OF PROVEN PRECISION**



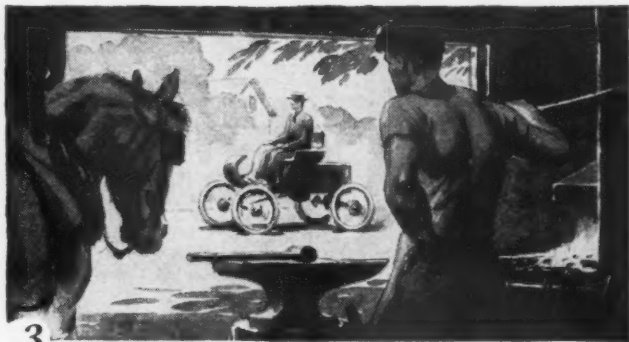


# A HORSESHOE for my SHINGLE Then and Now

Reading time:  
1 minute, 53 seconds

**1** "Most New England boys started working mighty early in my young days, and they could still be plenty young when they stepped out into business for themselves.

"With me it was a nest-egg of about a hundred dollars that put me into business on my own. The tree over the shop was a big New England Elm and, 'The children coming home from school' looked in at the door. Yes, it was a blacksmith shop I started, and I was the 'smithy.'



**3** "So under the Elm, the horseshoe, and my own big nose, a business grew and grew. The forge burned brightly day and night if necessary. Each workman was an earnest craftsman, and the shoeing of a horse, the fitting of a spoke, or the shaping of a wagon tongue were our modest works of art.

"Well do I remember our contempt for the first automobiles as they clattered around our crowded little streets. I even bought one myself to find out something about them. I could hardly see their future, and it was years before I fully understood them, and could take them apart and put them together.

"But I began to see the horseless future when folks really began giving up their fancy carriages and beloved horses. The 'autos' were getting bigger and better all the time and a man could drive a hundred miles to Boston in a day.

"So I hitched my coach to this bright new star. With a big shop, some good men, and the experience of craftsmen we claimed our right to specialize in these magic vehicles of the future.



**2** "Right over the door I painted the sign of the horseshoe, as big as I could make it. There it stayed for thirty years as the rising tide in American affairs took me along with it into an exciting future.

"First I saw that wagons often needed fixing as much as horses. And I saw too that wagons were simple things to build, and that our woods were full of the right kind of lumber for wheels, bodies and such.



**4** "When I look around me now I can hardly believe my story. It took all of fifty years but it seems only yesterday that the forge fires were burning. In their place I find thousands of feet of glistening floor space and, among other things, the best Chrysler-Plymouth service shop in the whole world. I guess we were just lucky to be the right kind of people in the right country, at the right time. We never cut a corner or skimmed a job, and I never heard of anyone in our place being snubbed for working diligently. The Elm and the forge fires are gone but, believe me, the horseshoe remains."

Write for our free booklet containing a number of these true success stories taken from our files. Chrysler Corporation, 341 Massachusetts Avenue, Highland Park 3, Michigan.



**Chrysler Corporation**

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS





## in Basic Improvements

Now, AC introduces, for automotive service, insulators made of the *patented* wide Heat Range aluminum oxide material, which was used exclusively in aircraft plugs for American planes during World War II. AC has consistently been *first* in basic spark plug improvements—pioneering such revolutionary advancements as the one-piece plug—the welded side electrode—the unglazed insulator tip—the complete Heat Range of plugs in every thread size—and *now* the patented aluminum oxide insulator.

That's why AC Spark Plugs are tops in performance—why you should choose them for utmost reliability.



Reproduced from  
Current National Advertising

AC's new *patented* aluminum oxide insulator material has revolutionized spark plug performance to a degree that no car, truck or tractor owner can afford to overlook. That means profits for you. There will be a big demand for these new AC's. They're self-cleaning — resistant to oxide coating — and they save time, maintenance and plug cost. Get a supply from your AC wholesaler.

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

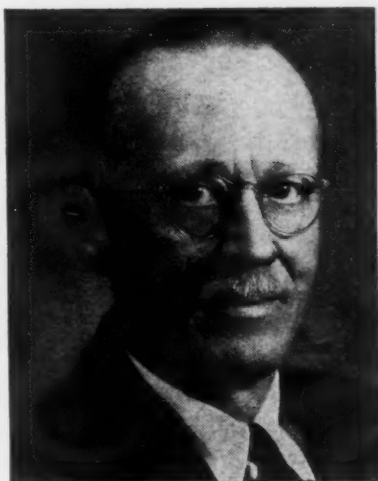
"You can't



The  
Original Equipment  
Line



# find a better battery"



**CARL STROBERG**  
Carl Stroberg Service Station  
Cleveland, Ohio



**E. R. SEAGER**  
Chairman of the Board of Directors  
Pennsylvania Rubber and Supply Co.  
Cleveland, Ohio

"I like results better than action. But selling Sta-ful I get both. Results like pleasing my customers, making friends and getting that larger profit are swell, but now Sta-ful gives me action too. Yes, greater turnover in my battery stock. People are sold on this better battery . . . Sta-ful.' This statement of Cleveland dealer Carl Stroberg is typical of the way our dealers praise the Auto-Lite Sta-ful Battery." E. R. Seager, Pennsylvania Rubber and Supply Company, Cleveland, Ohio.

## HERE'S WHAT Sta-ful DOES FOR YOU

- 1 Gives you a real sales leader . . . a battery that needs water only 3 times a year in normal car use.
- 2 Turns in a sweet profit on every sale.
- 3 Reduces time and bother required for checking and servicing batteries.
- 4 Wins friends, boosts sales all along the line because the Sta-ful principle helps end a major cause of battery grief and failure.



# Inlite's Original Equipment Quality means More Satisfied Customers, More Profits!



***ONE top-grade Inlite line fits almost every need...cuts inventory, speeds turnover!***

Imagine . . . one line of 30 Inlite matched brake sets fits 448 models of cars and trucks! That means minimum investment, faster turnover, better business for you. *Each* Inlite set is made uniformly to meet highest General Motors standards of quality. Each set is matched to have the frictional values for the brake and vehicle for which it is designed. That means better performance, more satisfied customers, more sales and profits for you!



**ORIGINAL EQUIPMENT  
QUALITY!**

**ONE TOP-QUALITY LINE,  
NO SECONDS!**

**PRE-SOLD MARKET!**

**SATISFIED CUSTOMERS!**



# INLITE

## *Brake Linings*

INLAND MANUFACTURING DIVISION, General Motors Corporation, DAYTON, OHIO

# The touch of a button ends the nightmarish blur of a dirty windshield - automatically

Fully Automatic  
Nothing to Pump

**H**undreds of thousands of new cars from 1948 production lines are piped for quick, easy installation of Trico's "Two Little Squirts." This, plus the praise of a million users, makes sales easier and more profitable than ever.

Trico advertising in the Saturday Evening Post, Life, Time, Collier's, Country Gentleman, This Week, Parade, the New York Times Sunday Magazine, continually reminds *your* customers that every windshield needs a Washer . . . that a touch of a button squirts two jets of water in the path of the wiper blades to wash windshields clean. Display Trico Washers, *recommend* them . . . and you'll sell them!



PRICED FOR  
FAST SELLING AT

**\$6<sup>25</sup>** plus  
installation



*Windshield Washers*

TRICO PRODUCTS CORP., BUFFALO 3, N. Y.



# NEVER BEFORE SO AND TO SELL WITH



RIDE THE ROCKET

**SEALED POWER**

## SEALED POWER MD-50 STEEL OIL RING

*The only ring with the*

## **FULL-FLOW SPRING**

1. Insures improved oil economy
2. Gives more spring action to steel segments
3. Leaves all slots and holes open
4. Maintains tension for varied groove depth
5. Has greater bearing area for longer life
6. Retains original efficiency for life of ring

AVAILABLE IN SEALED POWER INDIVIDUALLY ENGINEERED "X" SETS

# MUCH TO SELL -



## ALL-OUT SELLING HELP FOR FRANCHISED DEALERS

- ✓ National Advertising to millions  
sells YOU to your customers
- ✓ Big new FREE THERMOMETER SIGN  
identifies YOU to your customers
- ✓ Complete, hole-proof dealer franchise  
program includes
  1. 10,000 mile guarantee and Job Insurance
  2. Merchandising Helps
  3. Technical Helps
  4. Inventory Control

Sealed Power Corporation, Muskegon, Mich. In Canada: Stratford, Ont.



THE BEST PRODUCTS · THE BEST PROGRAM · TO MAKE MORE MONEY FOR YOU

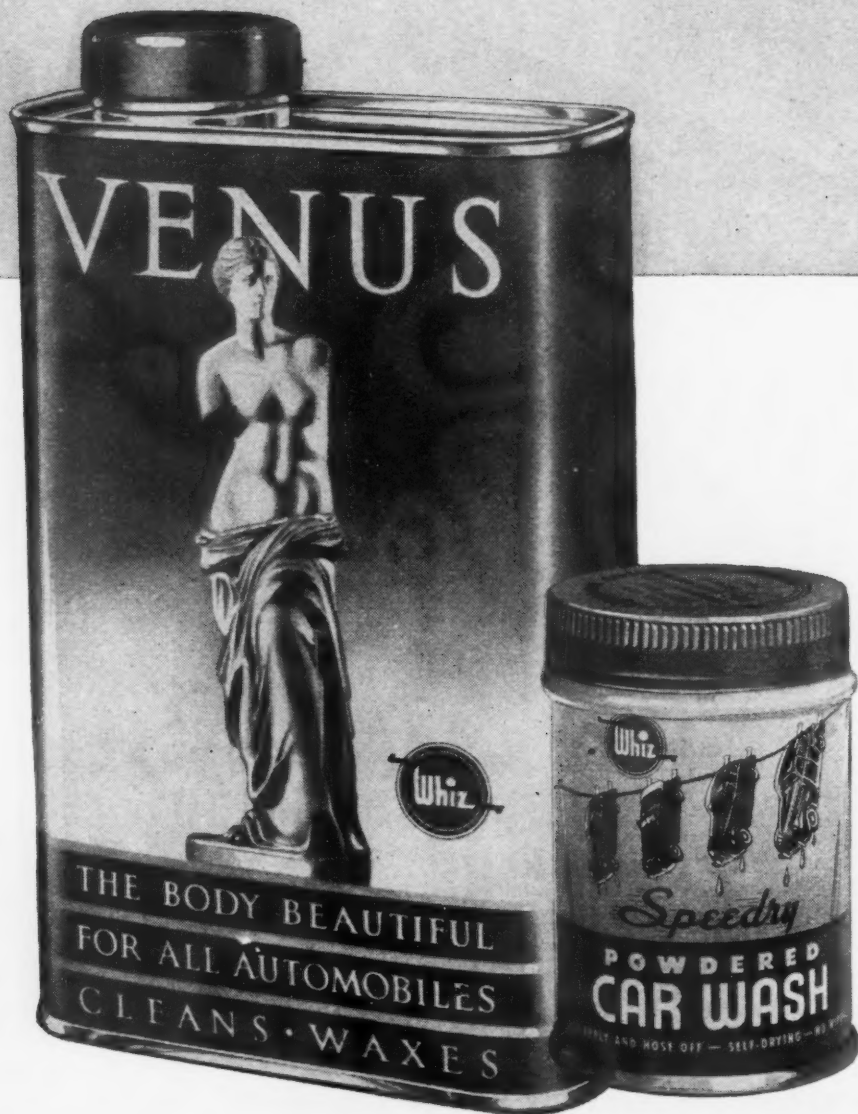
# Sealed Power

PISTON RINGS

BEST IN NEW CARS!

BEST IN OLD CARS!

# WHIZ 60th



*Two Fast-Selling Whiz Products for the Price of One!*

VENUS POLISH cleans and waxes in one easy operation.

New, sudsy SPEEDRY Powdered CAR WASH does a better job in less time. Eliminates chamoising. Self-Drying.

*Colorful, eye-catching display easel and window poster packed in every case.*



# ANNIVERSARY

## *Combination Offer!*

A can of Speedry—at no extra cost—with a pint of Venus Polish! That's the offer you can make to car owners when you feature this great Whiz Special!

Here's what this new *Combination Offer* means to you! You get—at no extra cost—24 cans of Speedry with every 24 pints of Venus you order from your Whiz jobber. You get your full 66 2/3% mark-up and cash in on a program that's going to mean big business to Whiz dealers.

Join the Whiz 60th Anniversary profit parade *today*  
... ask your jobber for details.

PRODUCTS OF  
*Hollingshead*  
LEADER IN MAINTENANCE CHEMICALS



R. M. HOLLINGSHEAD CORPORATION. General Offices: Camden, N. J. Canadian Offices: Toronto  
Warehouses: Dallas, San Francisco, Chicago

# WEIDENHOFF



Model 1044 Battery Operated Analyzer

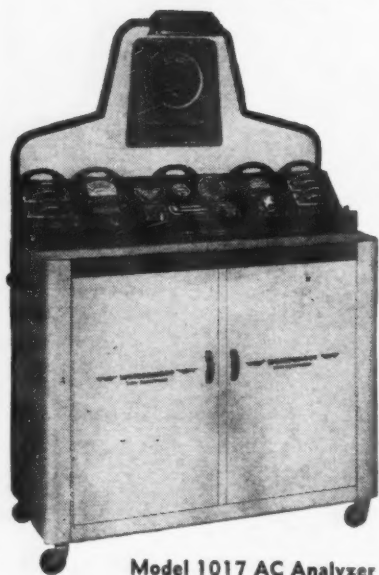
## STEPS UP YOUR TUNE-UP PROFITS

Years of perfecting places in your hands the finest most accurate equipment that lets you do all tune-up work right the first time. Accuracy is the keynote of WEIDENHOFF analyzers — Model 1017 and 1044 (the latter with extension lead block).

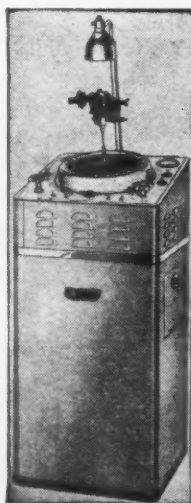
And, for ignition distributor testing the famous Weidenhoff Model 1059 Distrib-U-Scope satisfies the most exacting service expert. Gives you an electrical picture of distributor performance right before your eyes. It's the only way you'll know the distributor will be up to manufacturer's standards when you re-install it on the engine.

WEIDENHOFF has been the standard of accuracy and quality in test equipment for over 30 years.

Write for the facts on the full line for your shop.



Model 1017 AC Analyzer



Model 1059 Distrib-U-Scope. Left—mounted on cabinet furnished optional.



JOSEPH

**WEIDENHOFF** INC.

SUBSIDIARY OF BOWSER, INC.

4344-58 West Roosevelt Rd., Chicago 24, Ill., U. S. A.

EQUIPMENT  
for  
BATTERY  
ENGINE  
TUNE-UP  
ELECTRICAL  
MAGNETO  
SERVICE

**4** *out of* **5**

**CARS NEED NEW  
SHOCK ABSORBERS**



**THERE'S MORE MONEY  
FOR YOU  
SELLING**

**GABRIELS**

● because Gabriel  
is far out in front in re-  
placement sales at service  
shops across the nation.

"The market for new Gabriels is tremendous . . . the profit opportunity unlimited."

Gabriel, the best known name in shock absorbers . . . first in engineering . . . first in leak-proof sealed-in-steel construction . . . first in consumer acceptance—offers authorized dealers in the recognized channels of trade unmatched advantages in prestige and good will.

**THE**

*Gabriel*

**COMPANY**

**1523 EAST 45TH STREET • CLEVELAND 6, OHIO**





# Which is Betty Hutton?

STARRING IN THE  
PARAMOUNT PRODUCTION  
*"DREAM GIRL"*  
(See answer below)



Spark plugs also look alike, but  
**AUTO-LITE SPARK PLUGS**  
are *"Ignition Engineered"*

**S**INCE most spark plugs look alike, it's hard to tell which is best from outside appearance—just as it's difficult to tell which of the pictures above is really Betty Hutton. To make sure you get the best, ask for Auto-Lite Spark Plugs—they're ignition engineered. This means they're designed by the same engineers who design the entire electrical life-line for many of America's finest cars—from battery to coil to distributor to spark plug.

Toronto, Ontario

THE ELECTRIC AUTO-LITE COMPANY

Toledo 1, Ohio

Score yourself 100% if you picked the girl at the left as the real Betty Hutton, beautiful and talented actress soon to be seen in Paramount's thrilling new hit "Dream Girl." At right is Miss Chris Holly of East 65th St., New York City, who looks so much like Miss Hutton that crowds often gather when she goes out shopping.

You'll be 100% right, too, if you switch to Auto-Lite Spark Plugs, equipment on many leading makes of cars.



*Switch to  
AUTO-LITE*

NOBODY CANNOT BUY A  
BETTER SPARK PLUG

Listen to Auto-Lite's outstanding radio program, **YOUR THURSDAY NIGHT MEETING** starring Dick Haymes, Gordon Jenkins' Orchestra, Thursday 9:00 P. M., G. T. 695

# AUTO-LITE

# Which is the deal for you?



*Are you getting all 10?*



## ★ ORIGINAL FACTORY EQUIPMENT

Fifteen of America's leading makes of cars and trucks specify Auto-Lite Spark Plugs as original factory equipment.

## ★ NETWORK RADIO

Full half-hour Auto-Lite radio show stars Dick Haymes over 156 CBS stations. Beams Auto-Lite Spark Plug story to 30,000,000 homes.

## ★ MAGAZINE ADVERTISING

Color pages in magazines like Saturday Evening Post, Collier's and Look feature Auto-Lite Spark Plugs to over 9,200,000 car owner homes.

## ★ SUNDAY NEWSPAPERS

The big colorful Auto-Lite Spark Plug advertising reaches over 23,000,000 Sunday Rotogravure, American Weekly and Parade reading families. Another profit packed market.

## ★ AAA TIE-IN

Auto-Lite's advertising appears in all AAA maps and books . . . an exclusive tie-in with the best buying car owners in America.

## ★ HIGHWAY SIGNS

Coast to coast car owners see eye-catching Auto-Lite Spark Plug signs, spotted where travel is heaviest.

## ★ NEW MERCHANDISER CABINET

Large colorful Spark Plug cabinet holds more than 200 plugs. Speeds turnover, high-lights fast-moving stock, gets fast, profit-paying action at point of sale.

## ★ NEW SPARK PLUG CLEANER

The eye-catching modern design of this sensational new cleaner helps win friends, boost sales and profit.

## ★ WRAPPER PLAN

An exclusive Auto-Lite promotion! Builds volume and profits because it rewards the man who installs the plugs.

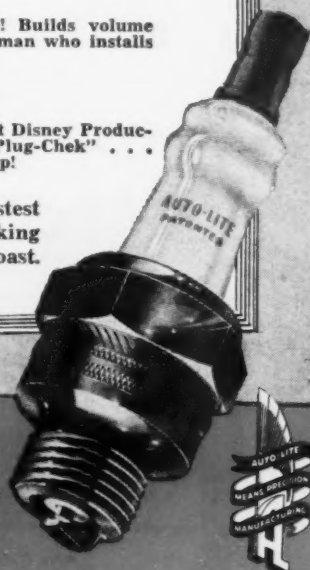
## ★ POINT-OF-SALE DISPLAYS

Training film in technicolor by Walt Disney Productions, counter displays, famous "Plug-Chek" . . . business builders that pack a wallop!

You owe it to yourself to check why dealers are saying Auto-Lite has the fastest merchandising program in the industry. Make sure you get the type of backing that is helping build volume and profits for Auto-Lite dealers coast to coast.

# SPARK PLUGS

IGNITION ENGINEERED BY IGNITION ENGINEERS



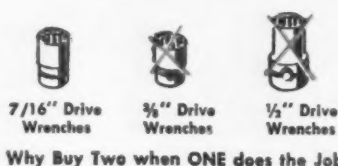
# HERE'S WHY

thousands of professional mechanics  
are changing over to **NUGGETS**



Yes, NUGGET users are NUGGET boosters! Professional mechanics, men who take real pride in their work want the best in equipment. That's why they are changing to NUGGETS. Take a tip—follow their lead, order NUGGETS now from your Blackhawk Jobber. NUGGETS are being delivered in ever-increasing quantity—but ever-increasing numbers of mechanics want them—so please be patient if your jobber can't serve you immediately.

A Product of BLACKHAWK MFG. CO., Dept. W-648, Milwaukee 1, Wisconsin

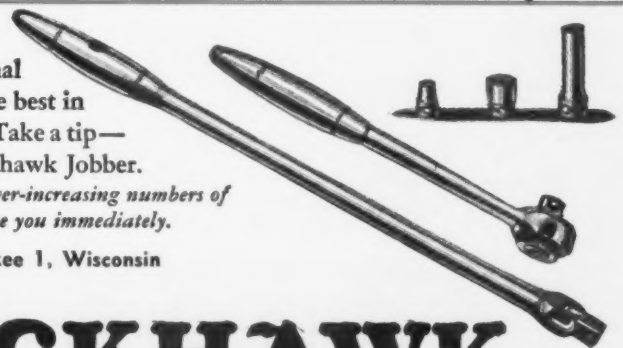


Reg. U. S. Pat. Office

# BLACKHAWK

## NUGGETS

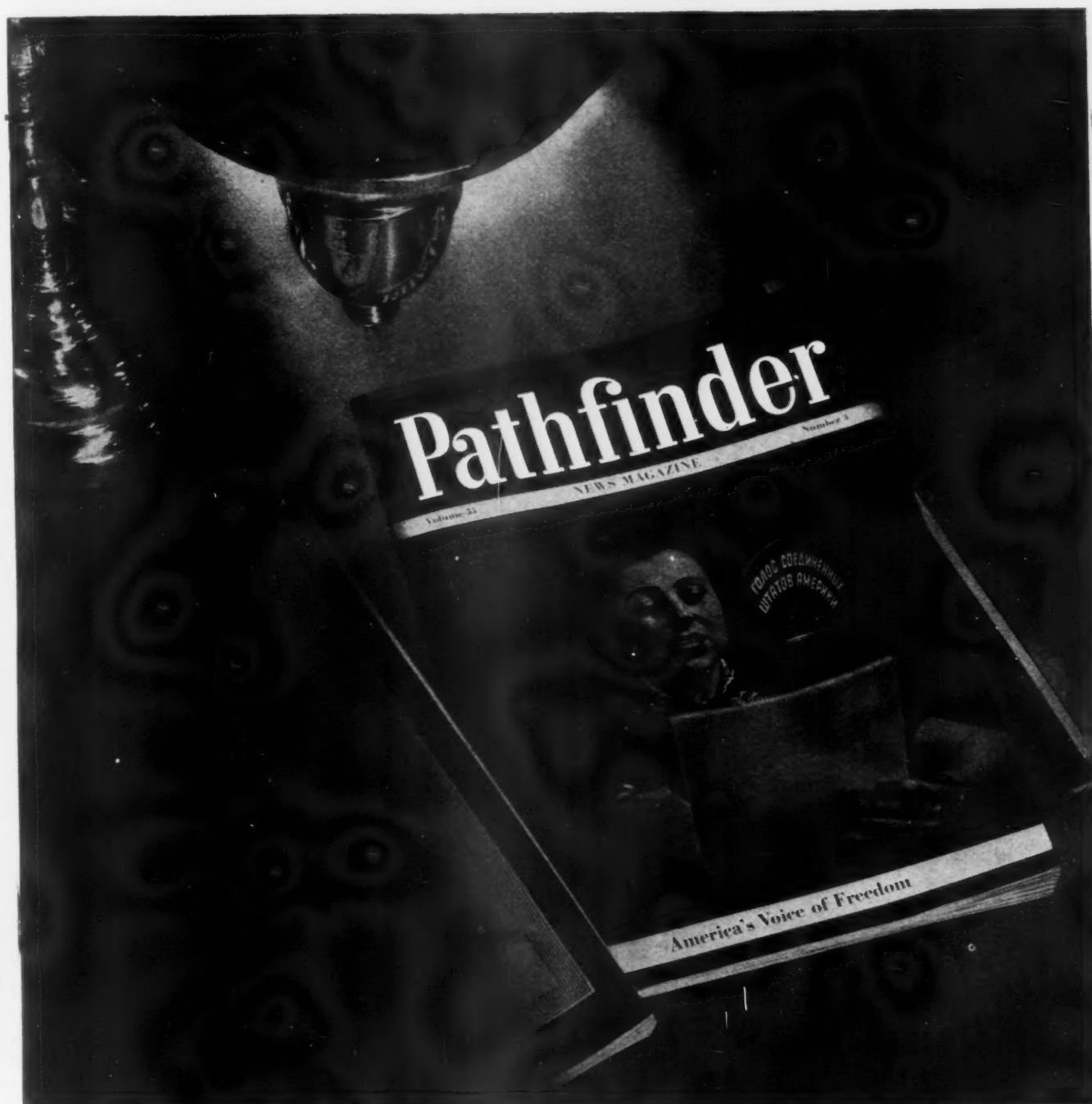
PROFESSIONAL WRENCHES for  
PROFESSIONAL MECHANICS





# America's Second Largest News Magazine!

OVER 1,000,000 CIRCULATION OF HOMETOWN LEADERS



Also publishers of FARM JOURNAL—*BIGGEST* in the country

APRIL, 1948

*When writing to advertisers please mention Motor Age*

25

# QUIET

**NOW WALKER  
MUFFLER-SELLING,**



Here's a great new Silencer selling program to help you capture the winter-worn muffler business that rolls onto your driveway and through your doors every day.

A muffler takes a terrific beating in winter. Slush and snow speed up outside rust. Ice and stones batter it from one end to the other. On the inside, unevaporated acid-condensate eats holes in the shell and corrodes the entire interior. Rusted loose and collapsed, the "insides" cause power-wasting gas-consuming back pressure.

Now is the time to get rid of these noisy, wasteful winter-worn mufflers . . . now before they spoil the pleasure of springtime driving . . .

**Replace Winter-Worn  
Mufflers with**

**FOR FREEDOM FROM NOISE FATIGUE  
FOR GREATER GASOLINE ECONOMY**

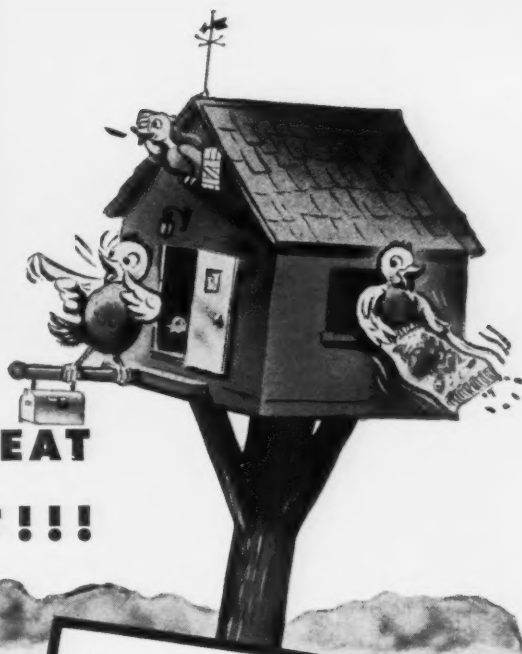
# WALKER

**\* "Individually Tuned"**

**WALKER MANUFACTURING CO. OF WISCONSIN**

# PLEASE!

**GIVES YOU ANOTHER GREAT  
PROFIT-MAKING EVENT!!!**



now before they cause engines to overheat, sludge up and waste costly gasoline.

Spearhead of this powerful new business building program is another dramatic, action-compelling, series of Saturday Evening Post advertisements that already is sending car owners the nation over to their Authorized Walker Dealers for free muffler advice. Meanwhile, new, customer-catching point-of-sale material is helping registered Walker dealers turn noisy, winter-worn mufflers into profitable Silencer sales.

Springtime is Silencer selling time and QUIET PLEASE is your opportunity to cash in on it—big! Get registered today as an Authorized Walker Silencer Dealer. See your Walker Jobber.

Use this Ten-Second Business Builder  
to Increase Your Muffler Profits

## STOOP

in back of the car where the tail pipe sticks out. You know tail pipes go first.



## LOOK

... if the end of the tail pipe is rusty and ragged, chances are the muffler is "shot" too.



## LISTEN

at side of car while driver "steps on the gas." The noise tells you if the muffler is bad.



## ...and SELL

all the advantages of a new, quiet, efficient Walker "Individually Tuned" Silencer.



**FOR SATISFIED CUSTOMERS  
FOR IMPROVED ENGINE PERFORMANCE**

# SILENCERS

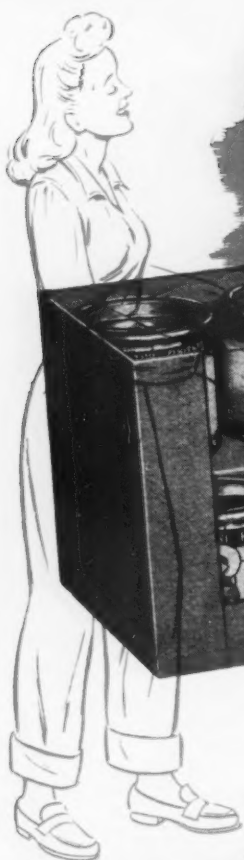
to each make and model of car

**RACINE, WISCONSIN • Also Makers of Walker Jacks and Electric Lifts**

\*"I.T." MAKES THE  
DIFFERENCE



# MEET YOUR MATCH, MAC!



COMPLETE  
SET ONLY  
**\$3.95**



## EXCLUSIVE!



Sherwin-Williams Laboratory Controlled Weathering Chart. This 20-page booklet contains simple directions concerning the blending and matching of weathered finishes for every popular make car since 1937! Only from Sherwin-Williams can you get this essential weathering data!

## SHERWIN-WILLIAMS O-K TONER COLORS Match Weathered Car Finishes The Easy Way!

Now! Twelve  $\frac{1}{4}$  pint cans of S-W Toner Colors and the S-W Laboratory Controlled Weathering Chart enable you to *easily blend* colors with the *original* finishes of most cars since 1937! Entire assortment only \$3.95!

Think of it! *No fuss, no muss* . . . just follow simple directions in Sherwin-Williams' specially prepared blending and matching book (shown, left)—and you have the finish color you want, *for spot repairing weathered cars!*

The complete weathering assortment consists of these colors: White, Sienna, Opalescent, Indian Oxide, P.T. Yellow, Tolidine, P.T. Green, P.T. Blue, Black, Purple Blue, and Brilliant Maroon.

*Remember, only Sherwin-Williams makes O-K Toner Colors and they are equal in quality to the full S-W Automotive Finishing Line!*

**SEE YOUR SHERWIN-WILLIAMS O-K DISTRIBUTOR TODAY.** The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio. (Export Division, Newark, N. J.)



# SHERWIN-WILLIAMS

## AUTOMOTIVE FINISHES



*Safeguard*  
**THE HEART  
OF THE  
FUEL SYSTEM**

**OVER  
30,000,000 IN USE  
TODAY**

One of the most reliable parts of an engine is the AC Fuel Pump, heart of the fuel system. That's because it is *first quality* in design, material and manufacture . . . built to meet the engine maker's own requirements.

#### QUALITY FEATURES

A comparative analysis shows that there are from 27 to 38 additional quality features built into AC Fuel Pumps. These quality features are in:

The Diaphragm . . . Castings . . . Top Cover . . . Link  
. . . Rocker Arm . . . Drain Petcock . . . Screen . . .  
Valve Cage Retainer . . . Lock Washers . . . Bushings  
and Linkage . . . Valve Cages . . . Rocker Arm Pin.

It's the many little operations that make quality. Protect your reputation . . . assure customer satisfaction . . . by replacing worn pumps with new AC's and making repairs with authentic AC Repair Kits and Diaphragm Kits.

**AC**  
**FUEL  
PUMPS**

#### SEND FOR AN AC PUMP SHOP MANUAL

Field Service Department, AC Spark Plug Division, G. M. Corp.  
910 Mott Foundation Building, Flint 3, Michigan

Gentlemen: Please send at once, no charge, the AC Shop Manuals checked:

- |  |  |
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| <input type="checkbox"/> How to Service Spark Plugs                    | <input type="checkbox"/> HOW TO SERVICE FUEL PUMPS   |
| <input type="checkbox"/> How to Service Spark Plug Cleaner             | <input type="checkbox"/> How to Service Air Cleaners |
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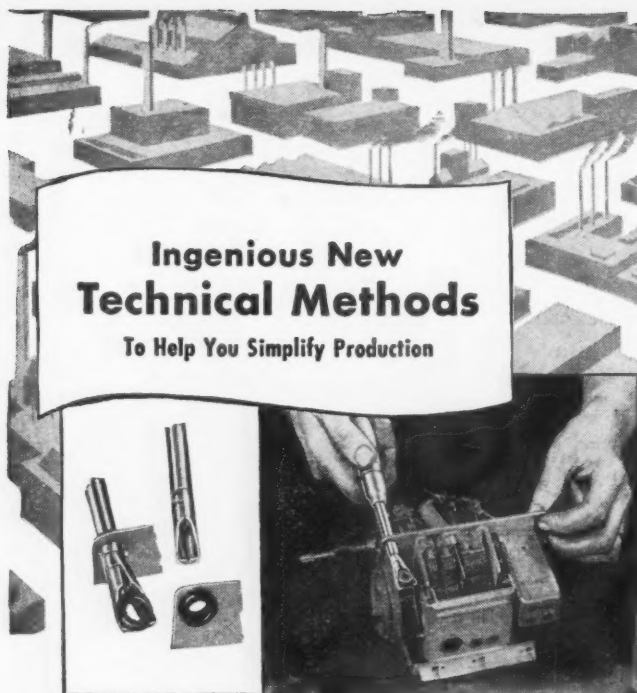
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## Ingenious New Technical Methods

To Help You Simplify Production

### New Tool Inserts Rubber Grommets Quickly . . . Easily!

A new tool called a Grommet Inserter is shown above inserting a rubber grommet in a Sub-Chassis of a Zenith 7H820 Table Model Radio. The inset illustrates a close up view of the Grommet Inserter before and after the grommet has been inserted.

Anyone can insert grommets in an instant with the new Grommet Inserter. Saves time, labor, and assures perfect fit. No longer is it necessary to use the time-consuming, cumbersome method of insertion by hand. The new Grommet Inserter does it efficiently.

**Simple as A-B-C.** All you do is push the Grommet Inserter through the hole, open jaws, place grommet in jaws, and pull back—leaving grommet firmly in place, and perfectly fitted. Comes in four standard sizes: 1/4", 5/16", 3/8", 7/16". Can be furnished in any special sizes to order.

**You can count on** chewing gum, too, to help step up employee's on-the-job efficiency. Chewing gum helps relieve tension and thereby enables him to work quicker and easier while leaving hands free. That's why more and more plant owners are making Wrigley's Spearmint Gum available to everyone.

Complete details may be obtained from  
D. B. Rich Manufacturing Co.  
6217 Melvina Ave., Chicago 30, Illinois



Grommet Inserter



AC-62

# MOTOR AGE

With Which Is Combined AUTOMOBILE TRADE JOURNAL

FOR AUTOMOTIVE SERVICEMEN

VOL. LXVII, No. 5

April, 1948

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Member of Associated Business Papers, Inc. Subscription Price: United  
States and Possessions, Latin-American Countries, \$3.00 per year; Canada and  
foreign, \$5.00 per year. Single copies, 40c.

Owned and Published by  
**CHILTON COMPANY (INC.)**  
Executive Offices

Chestnut and 56th Streets, Philadelphia 39, Pa., U.S.A.

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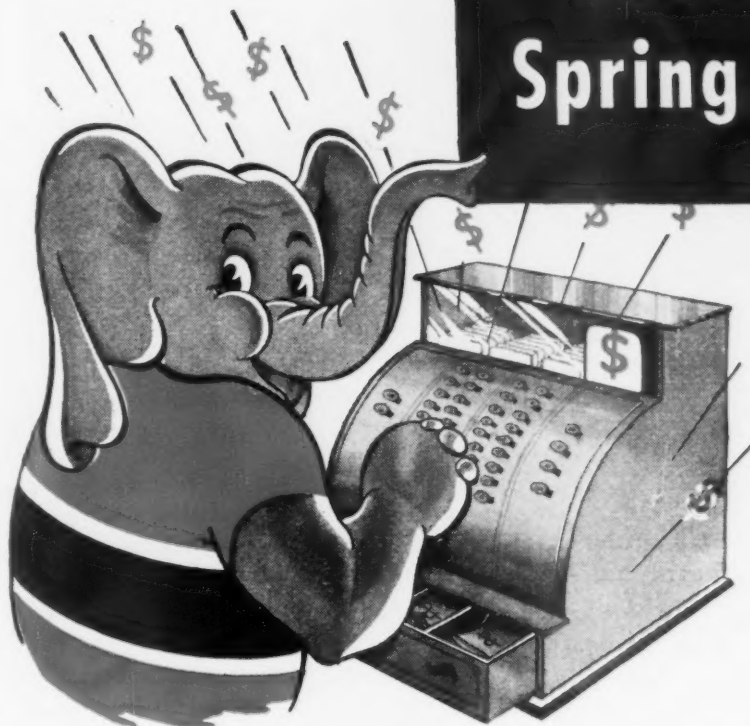
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# \* There's Profit in Spring Replacement



There are more than 37 million registered motor vehicles on the highways today. This means growing profits for you in spring replacements! In 1947, nearly 6 million spring replacement jobs were done in the United States—and this year promises to be even bigger! Get *your* share of these profits. There's good money in it for you! Feature MAREMONT SPRINGS ... They're easy to install, easy to sell!

MAREMONT SPRINGS are famous everywhere for their riding comfort, durability and service. Made of select alloy steel, pre-tested to meet high quality standards, MAREMONT SPRINGS are perfectly *prepared to take the punishment* of fast, modern automotive operation!

## \*HERE ARE PROFITS YOU MAKE ON SPRINGS

NUMBER OF SPRINGS	PER DAY	PER WEEK	PER MONTH
1	5.61	33.66	140.25
2	11.22	67.32	280.50
4	22.44	134.64	561.00

Also Manufacturers of Maremont Mufflers and Pipes



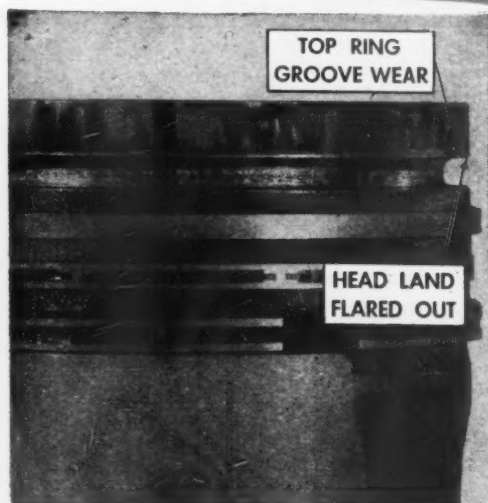
SINCE  
1877

# MAREMONT SPRINGS

MAREMONT AUTOMOTIVE PRODUCTS, Inc.  
1600 S. Ashland Ave. Chicago 8, Ill.  
Factories at Chicago, Gary and Harvey, Ill.

*Fix worn top ring grooves for keeps—  
the only dependable, economical way, with*

# SEALED POWER GI-60 Contracting Groove Insert

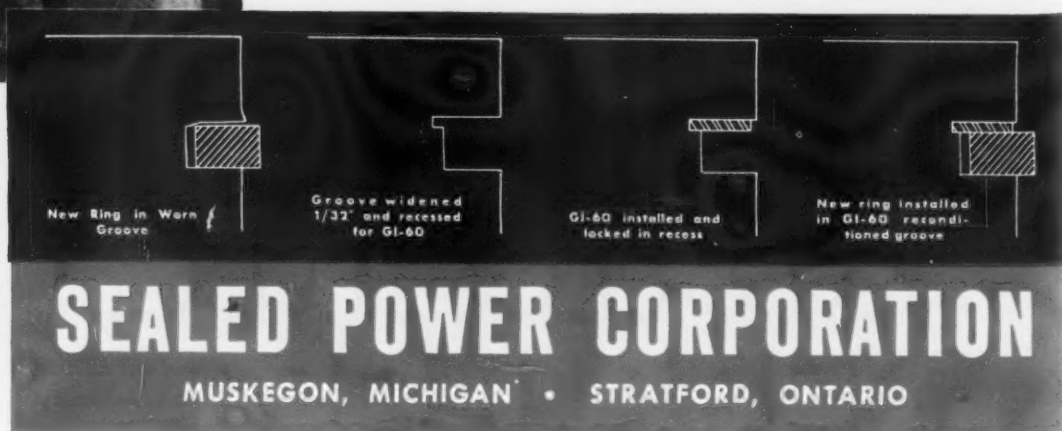


**S**EALED POWER GI-60 is not a spacer. It doesn't float. It puts  $1/32$ " of heat-resisting, wear-resisting steel armor plate at the top of the top ring groove, where the hardest wear comes.

This armor-plate protection is permanent. The top ring groove is first regrooved to an absolutely true surface  $1/32$ " wider than before, with a  $1/32$ " recess at the top. The Sealed Power GI-60 Contracting Groove Insert locks itself permanently into this recess. The "contracting" feature takes care of that. GI-60's heat-treated spring steel resists wear and pounding better than aluminum, better than cast iron. *It is the only dependable, economical answer to top ring groove wear.*

Without such treatment, new rings will stick. They will wear out fast. They will cause cylinder wear. They will waste gas. To widen the groove and use a wider ring changes the manufacturer's specifications and invites trouble. To use an ordinary floating spacer simply means using a wider ring in two parts. *GI-60 is the only proved satisfactory answer.*

Your Sealed Power distributor can install GI-60 for you. He has the special Sealed Power tools required. GI-60 means good profits for you and satisfaction for your customers. It makes old pistons new, keeps new pistons young. Ask your Sealed Power distributor or write direct.





## Editor's Views & News

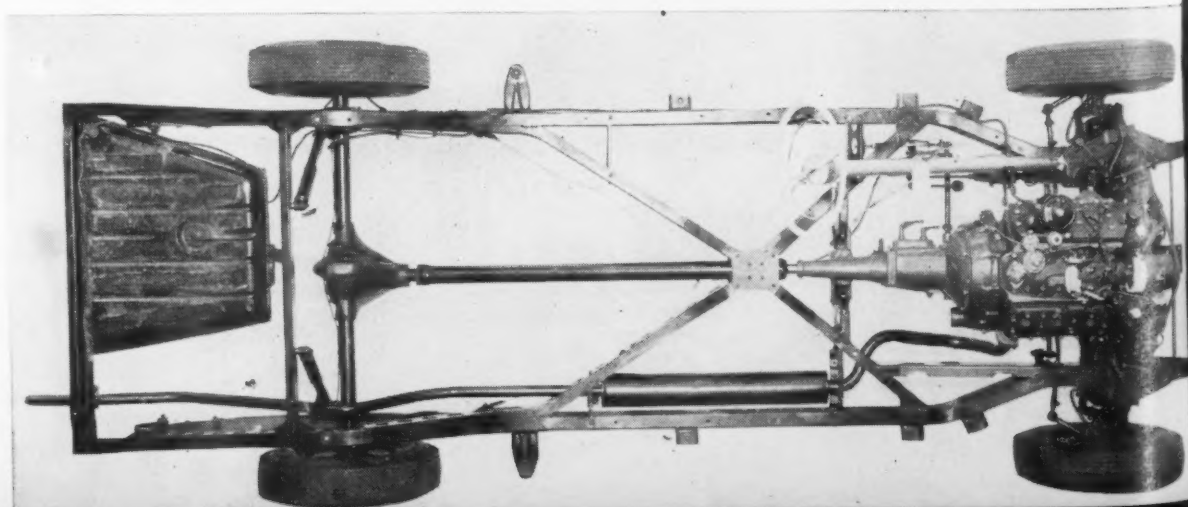
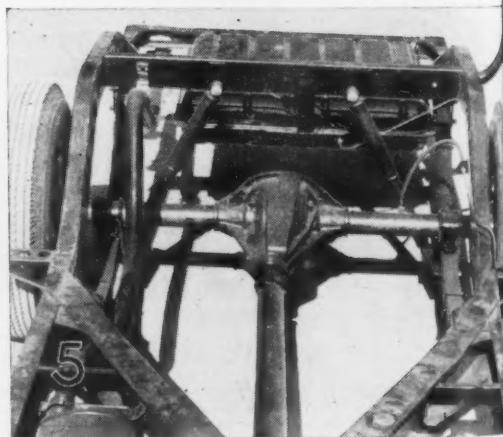
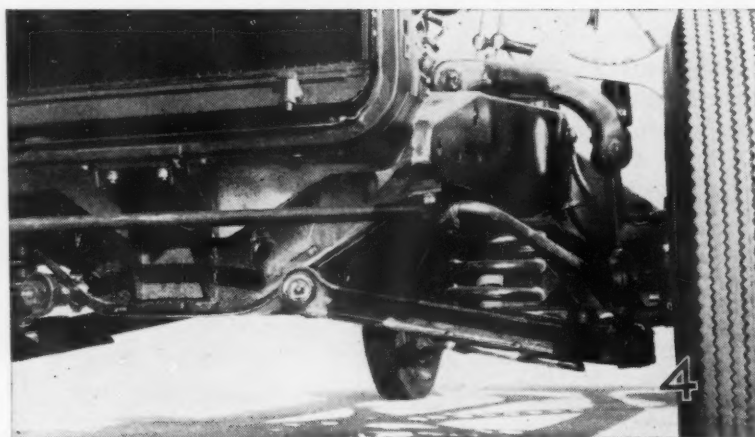
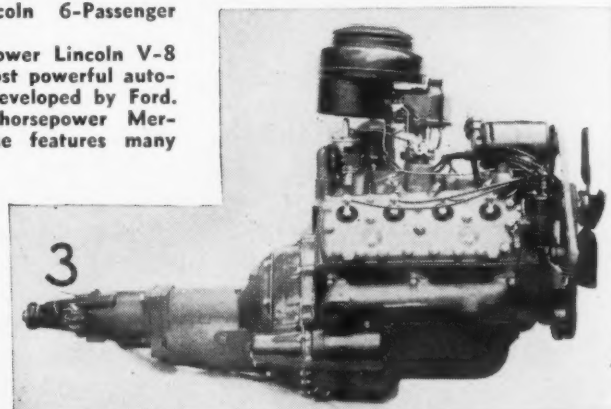
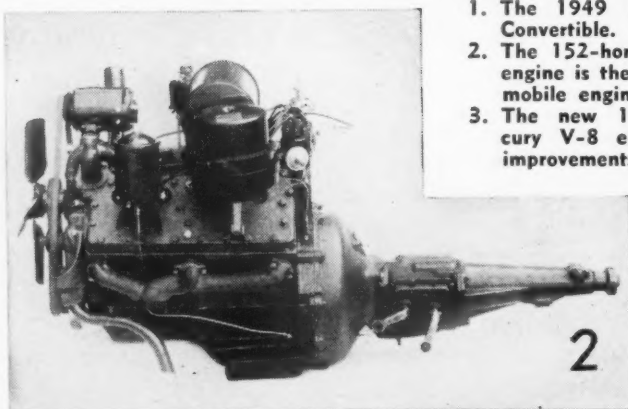
- ★ **AND SO TO PRESS.** Automotive Wholesalers of Rhode Island are working with independent service dealers on a state-wide car safety drive. Step-by-step promotional program begins on June 14 building up to July 2.
- ★ **PUNCH LINE** is simple and usable by any service dealer anywhere. Using direct advertising and posters, R. I. service dealers will ask their customers, "When are you going on your vacation?" And, "If you're driving, better let me check your car to be sure that yours is a safe and comfortable trip."
- ★ **MANY A HAPPY BUCK** can be earned that way. For it's the wise dealer who can sell an ounce of prevention. The one who knows what service is needed, when and where it's needed and why it's needed . . . he makes money in this business. And he sleeps pretty good at night, too.
- ★ **BEST INFORMATION ON GASOLINE** supplies is that there ought to be enough to meet car driving needs. Impending increases in military demands may change the picture entirely.
- ★ **NATIONAL AUTOMOBILE DEALERS ASSOCIATION (N.A.D.A.)** reports that dealers are entitled to protection of and are subject to the obligations of the Labor-Management Relations Act (Taft-Hartley Law).
- ★ **AUTOMOTIVE SERVICE ASSOCIATION** of Philadelphia will award a special prize—a 56-piece tool kit—to the most worthy student-mechanic selected from Philadelphia's three vocational schools.
- ★ **PLANS ARE IN THE MAKING** for another Automotive Service Industry Show.
- ★ **ONE FOR THE ROAD.** "I missed you so darling," the lady said as she picked up her pistol and fired the second shot.

*Frank P. Tighe*





1. The 1949 Lincoln 6-Passenger Convertible.
2. The 152-horsepower Lincoln V-8 engine is the most powerful automobile engine developed by Ford.
3. The new 110-horsepower Mercury V-8 engine features many improvements.



# New Engine, New Springing, New Chassis, New Look

## LINCOLN . . .

**F**IRST 1949 cars in the automobile industry, the completely new Lincoln and Lincoln Cosmopolitan models, have been announced by the Lincoln-Mercury Division of the Ford Motor Co. The two models are offered in eight body styles and two separate price ranges.

The Lincoln Cosmopolitan has a wheelbase of 125 in.; the Lincoln, 121 in. Both are powered by a new 152 hp eight-cylinder V-type engine, largest automobile engine ever produced by Ford.

Bodies are of reinforced all-steel construction with box section sills for maximum rigidity. Upper and rear portions of the rear fenders on the Cosmopolitan are integral with the body. Additional width, with no increase in overall dimensions, has been obtained by building the bodies to nearly full fender width. All doors are triple-

*(Continued on page 72)*

## MERCURY . . .

**A**s had been expected, sweeping changes have been made in the 1949 Mercury which went on display to the public April 29. In general, it has the lower, wider, sweeping lines of the latest styling, vastly improved riding comfort through new suspension and adoption of Hotchkiss drive, a new engine with greater horsepower, and more window area for better vision.

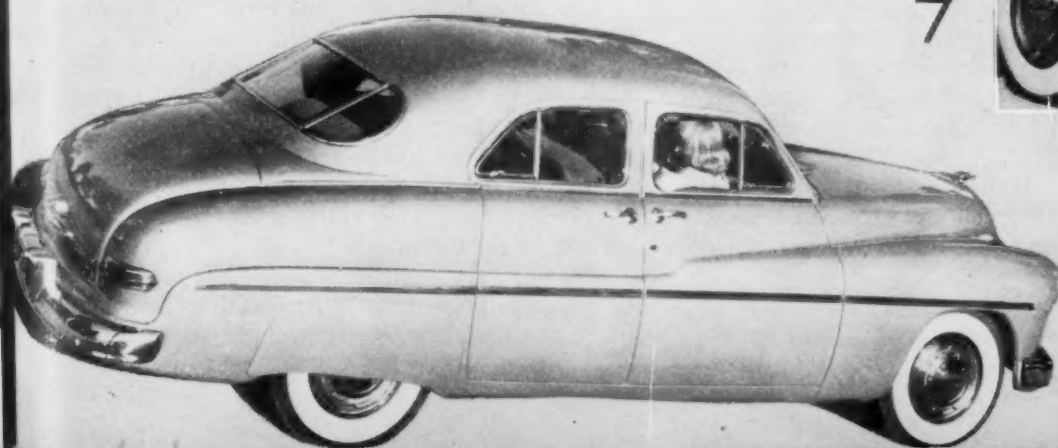
Outside of the styling, which is the type that has been considered radical, but now is becoming conventional with the introduction of new models in the industry, the greatest departure from previous models is in the new chassis design. After more than four decades, Ford is abandoning the old transverse leaf springing front and rear in all its 1949 models. The Mercury has swinging arm, individual front wheel suspension on inde-


*(Continued on page 80)*

4. Independent front wheel suspension of both cars. Direct acting shock absorber is mounted inside the coil.
5. Rear end of the Lincoln chassis showing rear spring and shock absorber suspension and hypoid drive.

6. The 1949 Mercury chassis, showing the new K-type frame, front and rear spring suspension, engine mounting. Lincoln chassis is similar.

7. This 1949 Mercury Sport Sedan typifies the lines of Mercury models.





The vacuumeter test is essential to any reasonably thorough tune-up.

**MODERN**

## **TUNE-UP Methods**

**E**NGINE tune-up, more than any other single factor, determines the car's performance, dependability and economy. It can create customer satisfaction like few other jobs. From the shop owner's point of view it is highly profitable, not only in its own right, but because it provides an opportunity to spot the need for other jobs that will increase service volume. From the dealer's point of view tune-up is, of course, an essential part of new car delivery.

Now that spring is here, tune-up work is in greater demand than ever, whether it be a quick

minor tune-up or the more intensive major tune-up.

The minor tune-up should begin with the battery, checking the water level and amount of charge. Clean the corrosion off the terminals and cables. Follow this up by removing the plugs and sand blasting them. If there is any evidence of cracked porcelain or burned electrodes, the plug should be replaced.

Examine the ignition wires. They may be loose, or the insulation may be cracked or leaking. Remove the distributor cap and check it and the ro-



A timing light is easy to use and gives a fast and accurate check.

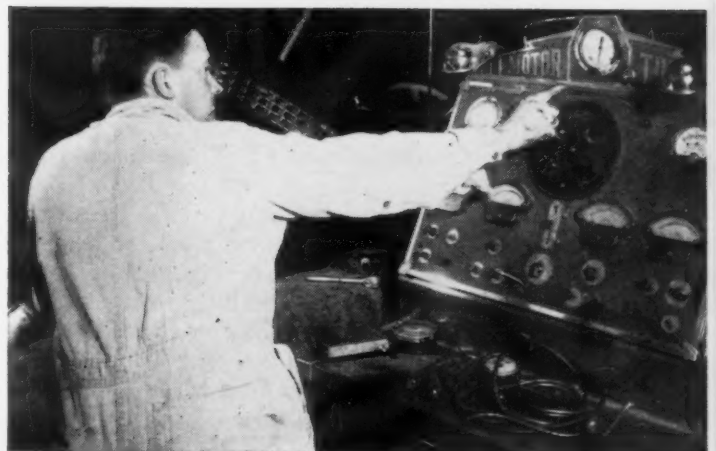


Tighten the head bolts with a tongue wrench to prevent twisting them off.

A compression meter is as useful to a tune-up man as a stethoscope is to a doctor.



A good motor analyzer pays for itself many times over.



**Car owners are sold on the idea of a motor tune-up in the spring. So take advantage of the season and the ready profit job it brings**

tor for cracks. Examine and clean the distributor points with carbon tetrachloride or replace them if necessary. Slight roughness can be removed, but pitted or uneven points should always be replaced. Whether the points have been replaced or merely cleaned, it is essential that the gap be set to manufacturer's specifications. Use a distributor test stand if one is available, although a wire feeler gage will do an adequate job. It is a good idea to measure point spring tension. This can be done by means of a spring scale marked off

*(Continued on page 92)*

# Pop Pins Down a Frozen Cap Screw



**L**ARRY Tate was enjoying the warm spring sunshine from the front door of the shop. His head moved only when a comely girl strolled by, light-

ly clad for the balmy April afternoon. Despite this engaging occupation, Larry's face was glum.

"When did you start your vacation?" asked Pop O'Neill, coming up behind him.

Larry did not bother to look around. "A guy has to come up for air once in a while," he said.

"You don't seem to be enjoyin' it much."

Turning slowly, Larry cocked an eye up at Pop. "You know what's wrong with the world?" he asked.

"Accordin' to what the papers say every day, there's lots o' things wrong," said Pop. "But what's your guess?"

"The New Look."

"I mighta knowed your mind would be on things like that."

"Things has got so bad," said Larry, "the only place you can see a calf is some barnyard. There oughta be a law."

"If it was up to me, the only law I'd pass would be one makin' every mechanic work at least ten minutes out of every hour. Now how about breakin' down and doin' something for a change?"

Okay, okay. But, if you ever start walkin' sideways, you'll know why."

"Even a crab moves once in a while. When *you* start, see if you can find Tommy. I ain't seen him

Like so many of the "easy" jobs around a repair shop, removing the cap screws was not so easy, as Larry's skinned knuckles proved, but again Pop had the right answer



by J. EDWARD FORD

for an hour. Maybe he's pickin' up some of your bad habits."

Larry scowled. "What'll I tell him the great white father wants to see him about?"

"I don't want to see him especially. Just tell him I promised Jerry Powers we'd have that Cadillac of his ready at five o'clock."

"Jerry", he said. "When did you stop callin' him 'Stinky'?"

"This mornin', when he paid last month's bill."



"Your dear boss is getting' all worried about you," said Larry. "He thought maybe you contracted sleepin' sickness or something."

Illustrated by FERD OPECK

"What's wrong with his Caddy this time?" asked Larry. "That kid of his been loopin' around and smashin' it up again?"

"No. Just bad bearings," said Pop. "But we've got to get the lead out if we're gonna have it ready on time—and I don't mean outa the bearings."

"Okay. I'll tell Tommy."

Larry sauntered back to the bench and got a wrench. Then, walking over to the pair of feet that protruded from beneath the Cadillac, he

leaned over and struck one sole with the wrench, like a cop rousing a derelict from a park bench.

"Ouch!" came Tommy Winters' voice.

"Your dear boss is gettin' all worried about you," said Larry. "He thought maybe you contracted sleepin' sickness or somethin'."

Tommy braced his heels against the concrete floor and pulled himself from under the car, then he got to his feet. He wore a worried look.

(Continued on page 98)





A huge inside-shop sign, such as this, helps business, especially if steady parking customers pass this way. Gordon is shown using the portable, mechanical buffer that puts a high gloss on pigmented wax.

## Clean Up on Car APPEARANCE



"CAR Appearance" promotion adds \$200 or better to your weekly gross with labor and materials taking about 50 per cent of that sum, said Harry Okerman, operating manager of a large Cleveland shop.

"We set up to go after this kind of business several years ago," said Okerman, "and it has been a high-profit venture all the way.

"First, there are a number of basic requirements for launching such a service," he went on. Following is an itemization of the measures which led to, and guarantee a continuance of, this shop's success along this line:

1. Establishment of a "Car Appearance" de-

As warm weather pleasure driving reaches its peak, here's a good tip for bringing in some dollars which are often overlooked

- partment, or working area, is essential.
2. Good illumination of the department.
3. Securing and training a conscientious "Car Appearance" expert.
4. On-the-spot colorful signs that tell of the service.
5. Good newspaper advertising.



One of final steps in "car appearance" is careful washing of all interior trim, and vacuuming of upholstery and cloth covering; polishing of all chrome and painting running board and tires.



Above an ordinary household vacuum cleaner does a fine job on interior cleaning.

Right: Gordon touches up those minute, hardly visible scratches or blemishes in a car's finish.



by WALTER RUDOLPH

traffic in or through the shop is important.

Motorists like to see this kind of work going on, especially on their own cars. And seeing it, the car-owner who feels that his car's appearance isn't anything he is proud of, is especially susceptible to "suggestive selling" along this line. The service man-

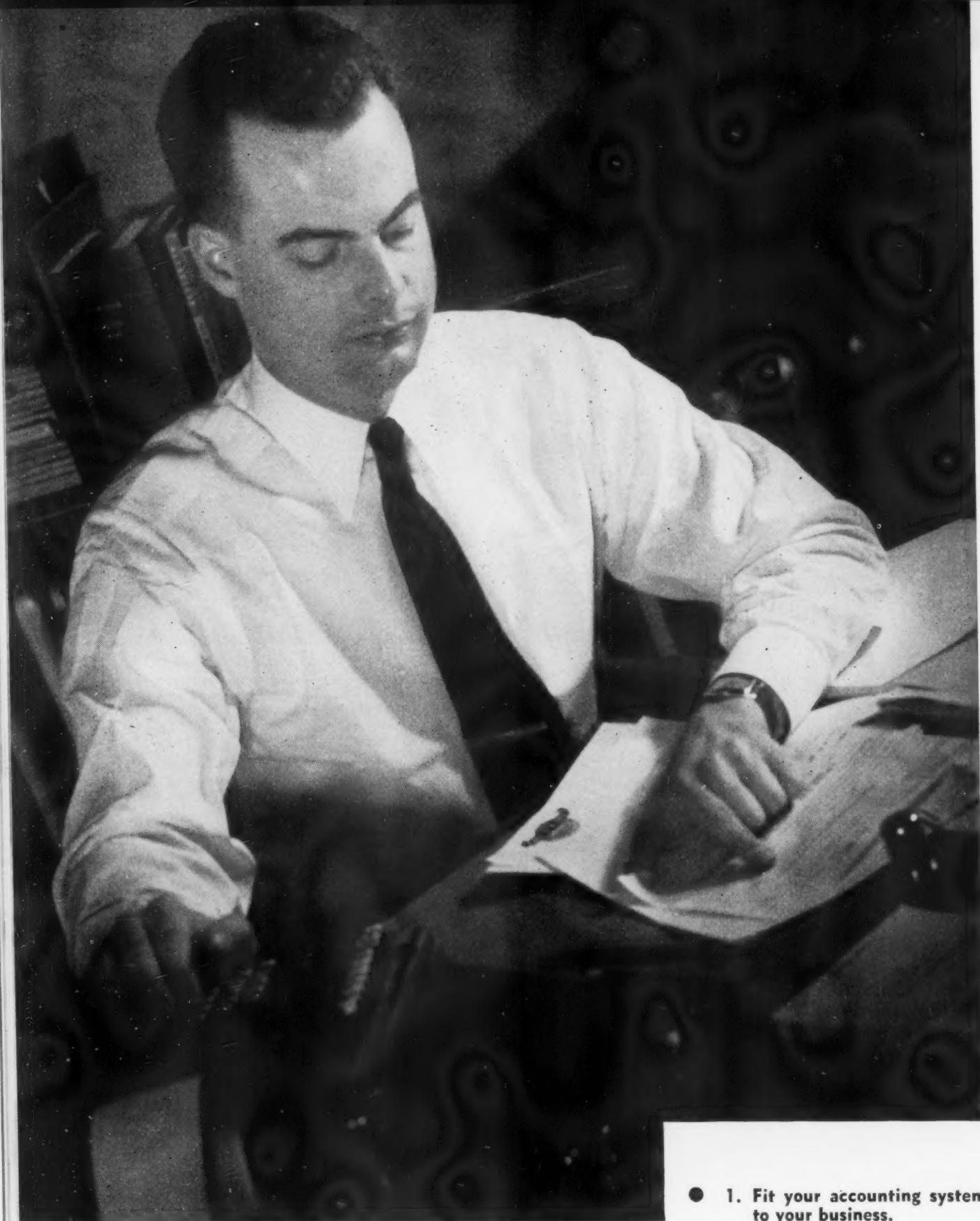
ager, during a pause in his discussion of other work for a motorist, finds it easy to mention and point out the "Car Appearance" department, and to explain details of this additional service.

"Why not have us give your car that like-new look before you come back to get it," he suggests.

(Continued on page 106)

6. If run in conjunction with a parking service, initiation of customer follow-up on "Car Appearance."

Taken in that order, establishment of the "Car Appearance" working area practically necessitates a centrally-located, prominent, wide-open section of the shop floor. Proximity to the heaviest



- 1. Fit your accounting system to your business.
- 2. Record all transactions daily.
- 3. Keep a close check on income.
- 4. Don't use your pants pocket for a cash drawer.

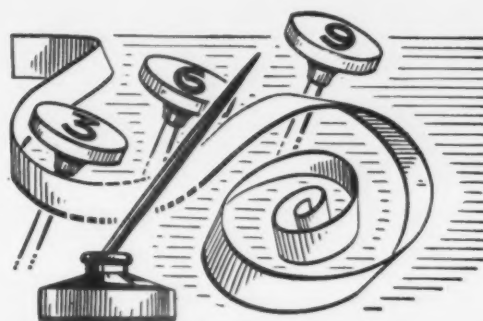


**R**ECENTLY an automotive maintenance man complained that his accounting system was "all shot", and he wanted advice on how to straighten out matters so that he could determine true profit and avoid penalties on tax returns. This is not an isolated case, for too many automotive maintenance men still keep horse-and-buggy books. These 9 suggestions, based upon practical experience with the recording habits of automotive maintenance men, will go a long way toward taking the "bugs" out of bookkeeping routine, will assure greater accuracy and maximum profits.

First. Fit the accounting system to the business. Never try to fit your business to a system. The latter always raises Cain with management. Often, we have reviewed the accounts of an automotive maintenance man to find that he was using a system, satisfactory for other organizations, but too complicated or otherwise unadapted for his use, resulting in slaphappy recording after a time and a general breakdown of the system. A simple system that fits the business and keeps bookwork at minimum is best.

Second. Record all transactions daily. If recordings are permitted to pile up indefinitely, and no entries made in the books, the system will bog down, no matter how good it is. Some maintenance men hold invoices, petty cash outlays and other disbursements, collections on accounts receivable and cash receipts for days before entering them in the books. Enter each transaction with essential details the day it takes place. For the average small and moderately-sized establishment, such entries take probably a half-hour, and sometimes only ten minutes.

5. Pay all bills by check.
6. Watch your costs.
7. Don't rely on your memory.
8. Include all your overhead expenses in your selling price.
9. Use a good filing system.



## Aids to Better ACCOUNTING

**These suggestions will go a long way toward taking the bugs out of your bookkeeping routine while assuring greater accuracy and maximum profit**

Third. Keep a close check on income. If possible, deposit cash receipts in the bank **TO THE PENNY**, which will give a clean-cut picture of cash income on the bank statement. Obviously, this is an aid in checking the accuracy of cash receipts, which is of prime importance in any business and the preparation of income tax returns. Reconcile the bank statement with the cash account in your books immediately upon receipt. Sometimes, during periods when business is brisk, these statements aren't checked for weeks, a lapse that may lead to trouble. Keep duplicates of deposit slips, listing each item separately. This will also aid when checking the accuracy of your cash book entries.

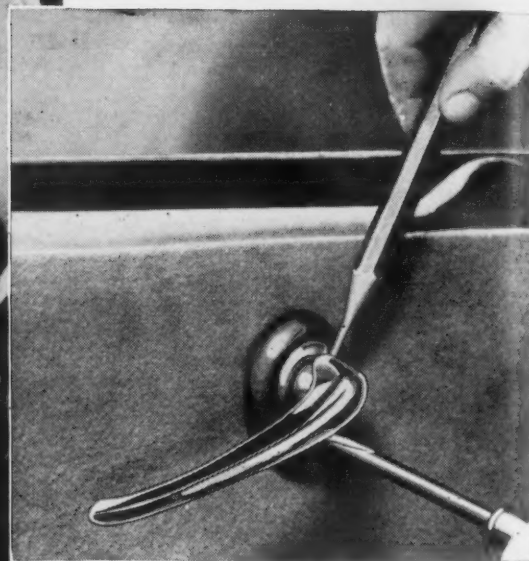
Fourth. Don't use your pants pocket for a teller's cage. Some automotive maintenance men pocket their cash receipts, or part of them, and pay part or all of their bills out of pocket, failing to record all transactions, resulting in a mixed-up 'twix income and outgo, that is never straightened out, profit is inaccurately

*(Continued on page 116)*



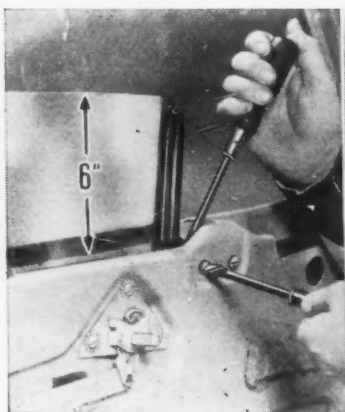
1. Remove the window garnish molding screws and pull the molding loose starting at the top of door.

2. With the use of a screw driver, pry the trim panel loose at each fastener, following along both sides and the bottom.

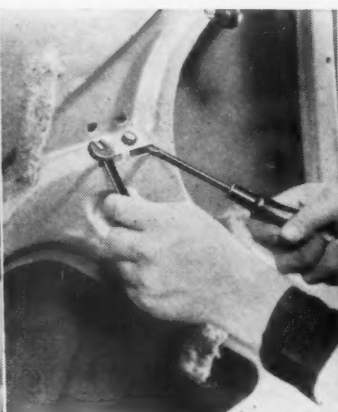


3. Press in on escutcheon plate and with a thin punch force the pins out of the inside door lock and regulator handles.

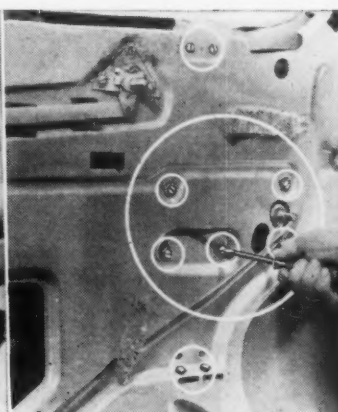
## Replacing F



8. To adjust the window run at top, lower the window as shown. With a screw driver, exert a slight tension to hold the upper end of the window run against the door glass molding—Tighten



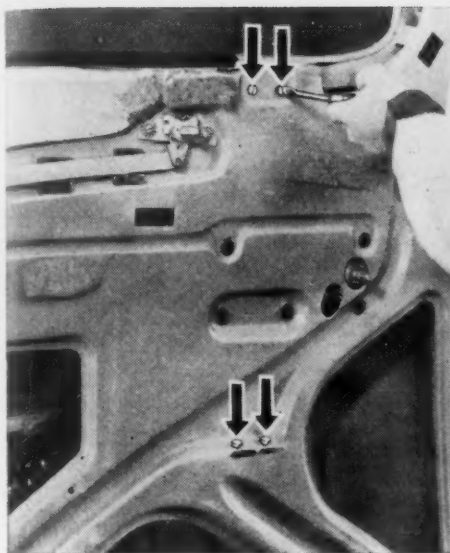
one screw to keep tension. 9. To adjust the window run at the bottom, lower window all the way, and with a screw driver in the panel slot hold the window run under slight



tension against the door glass molding at the bottom, tighten one cap screw. 10. Test adjustment by raising and lowering window several times. If too light, readjust



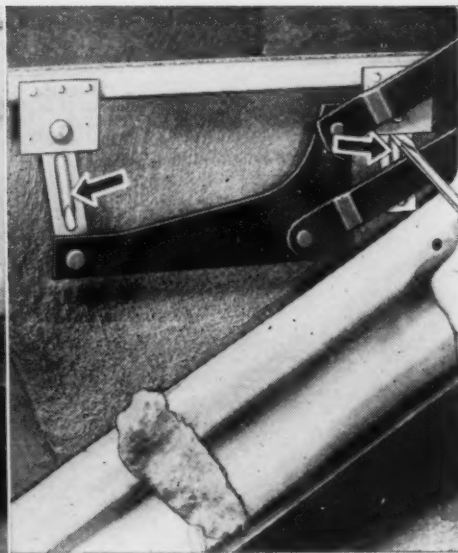
until correct tension is obtained then tighten all the screws on the glass run and the regulator. 11. Place a piece of twine around and in the ventilator molding channel to hold rubber



4. Loosen the four screws at the top and bottom of the door glass run.



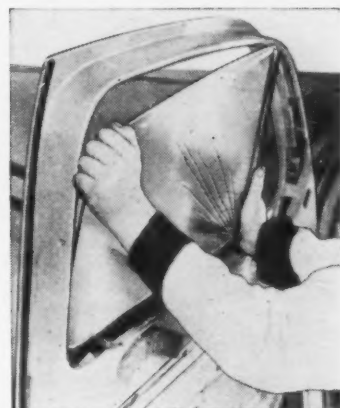
5. Remove the link stud lock from each link stud connecting the window regulator to the window glass channel.



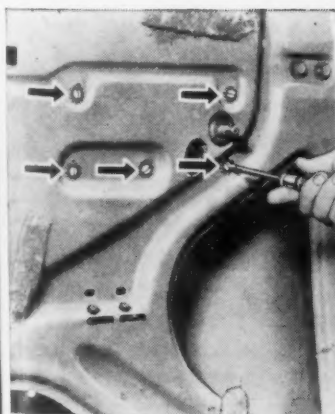
6. Push the regulator link studs back, releasing them from the window channel.

# Ford Window Glass

The proper tools, patience, and a clear picture of factory approved procedure enable any repair man to replace glass



7. To remove the glass from the door, lift it up at the top and pull it toward the body, tilting slightly. Install new glass.



in place for ease in installation. 12. Remove regulator screws. With links in upright position, push regulator toward the outside panel allowing crank handle shaft to clear hole in panel.

Lower it so the regulator can be removed through the front opening. 13. To assemble the window regulator and door glass assembly, first set in window

regulator in its position in the door panel, installing the screws loosely. 14. With one hand supporting the glass, raise the window to within one-eighth of an inch of

its position when it is closed. 15. With one hand on the inside surface of the window, holding it in place, tighten two regulator screws to the panel and the job is completed.





The Hillman Minx made in Great Britain is a 92-in. wheelbase car powered with a 40 h. p. 4-cylinder engine. It will give 35 miles per gallon, and is priced at about \$1800.

## Another Import the HILLMAN

Another large British automobile company  
enters the American market with a small car

ONE of Britain's largest car and truck manufacturers, the Rootes Group, have begun a campaign to market their economy car, the Hillman Minx, in this country. They plan a country-wide dealer and service organization as part of Britain's drive to attract American dollars. Four models, a sedan, a convertible coupe, a station wagon and a panel delivery will make

up the line which will be priced in the neighborhood of \$1800.

Thirty-five miles to the gallon fuel consumption is one of the major features of the Hillman, a small car by American standards, with a wheelbase of 92 in. and a dry weight of 2016 lbs.

The four-cylinder engine has 72.26 cu. in. displacement and develops 40 hp at 4100 rpm. Valves are in the side, and the compression ratio is 6.3 to 1. The three-bearing crankshaft has steel-backed main and rod bearings. Full pressure lubrication is employed.

The carburetor is a Solex downdraft, used in conjunction with an AC fuel pump and an 8¾ gallon gas tank. The electrical system consists of a Lucas coil, a Lucas 12-volt battery and Champion plugs.

Unusual in British cars, the gearshift is on the steering post and is connected to a transmission that provides synchromesh on second, third and fourth speeds forward. The clutch is a 7⅛ in. Borg and Beck. The drive is through an open Hardy Spicer shaft to a spiral bevel rear end.

Lockheed hydraulic brakes are used; The two-

(Continued on page 124)



Erny's Brake Shop is in the heart of down town Philadelphia, but Bob Erny, the owner, shows a personal interest in his customers' cars which would do credit to the friendliest small town.

Specializing in brake work, Bob Erny has built a steady business based on good work at fair prices.



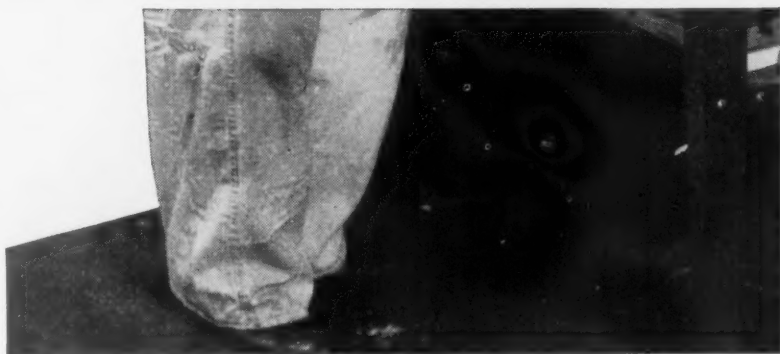
**B**OB ERNY, Philadelphia brake specialist and president of the Automotive Service Association of Philadelphia, has earned a reputation for good workmanship—while building a substantial business for himself.

"Good workmanship, reasonable prices and prompt service have done a great deal to make satisfied customers," says Bob Erny. "Our reputation has spread more by word of mouth," he continued, "than any other means."

Having been in the brake business for over 25 years, Bob terms himself as being one of this city's pioneer "brake specialists." I think that I was one of the first brake men to put a set of moulded brake linings on a car and one of the first in this vicinity to install a drum lathe.

"Many brake shops sell 'service specials,' such as relining brakes, truing wheels and doing various front end jobs at cut rates," said Bob. "But I don't believe in having specials at a mark-down price. I think that good workmanship should be paid for and that customers should know how much it costs to do a job on a car. We therefore itemize every job that we do on a car so that cus-

## Erny's Earnings



by PHIL LANCE

tomers will see exactly what they are paying for. Past experience has shown us, that customers as a rule don't take advantage of specials, because they feel that the car isn't properly worked on, but has a 'rush' job done on it. We want customers' attention to their cars so we quote prices for every job done."

(Continued on page 126)

# FACING YOUR WAY



**FRANKLIN A. MILLER**, head of the new Department of Marketing and Merchandising of Raybestos-Manhattan, Inc.



**WILBUR SHAW**, three times winner of the famous five hundred mile race, and now president of the Indianapolis Speedway



**BEN T. WRIGHT**, Lincoln-Mercury dealer from Evanston, Ill., recently elected president of the National Automobile Dealer's Association



**EARL M. SHEEHAN** of Motive Parts Co., Pittsburgh, this year's president of the National Standard Parts Association



# NEWSCENE



Anita Colby, Paramount picture executive and famous model, tries a famous 1903 curved dash Oldsmobile as she goes through the collection of famous old cars at the Antique Auto Show in New York.

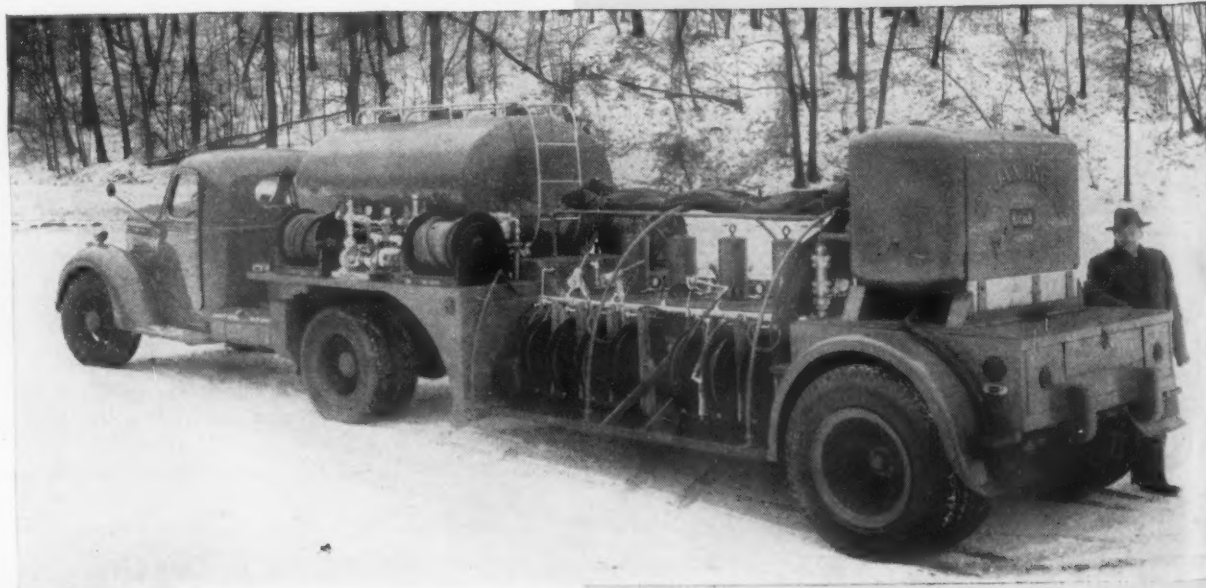


Sandra Spence takes her doses of vitamin D on the beach near Malibu when she is not on the set of "A Connecticut Yankee in King Arthur's Court."

The new British Hillman Estate Car, specially made for the American market, is designed to operate on 7 pints of oil and to give better than 30 mile per gallon.



"Kilroy" is a portable service station capable of completely servicing any mechanized units, such as those used on heavy construction jobs. Its inventor, John H. Adler, named it for the famous GI who can go anywhere.



# NEWSCE



Gulliver MacKellar III, and Jack Pumphrey of Springfield, Mo., discuss the hook-up of a giant trailer, 48 feet long, perhaps the world's largest.



New York's first Antique Auto Show took place recently at the 71st Regiment Armory under the sponsorship of the Veteran Motor Car Club of America. How many of these old timers do you recognize now?



Here's the start of the 100-mile amateur National Motorcycle Race at Daytona Beach won by Don Evans of San Bernadino, Calif.



# NEWSCENE

## 1948 Production of Ford Heavy Duty Trucks Sold

Orders now in the hands of Ford dealers for the new series F-7 and F-8 extra heavy duty trucks will absorb practically the entire 1948 production of these models, J. R. Davis, vice president and director of sales and advertising, Ford Motor Company, announced recently.

This heavy bank of orders was built up, Mr. Davis explained, in less than 60 days despite the fact that the new heavy units were introduced at a time when the market for heavy duty trucks had swung from the seller's to the buyer's side of the counter.

## Plans for 1948 ASI Show Have Started to Roll

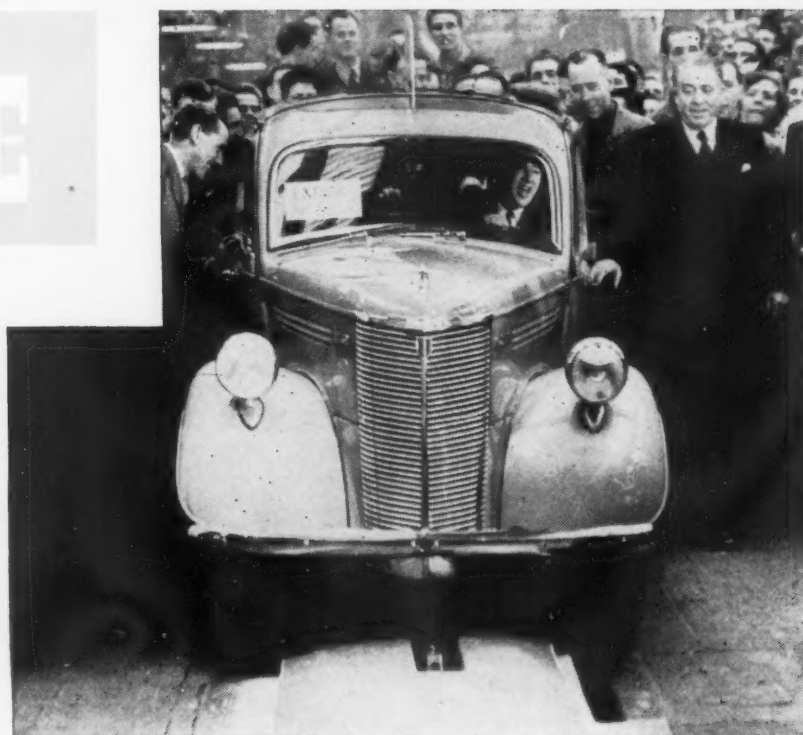
With the problems and differences which perplex the sponsors of the 1947 Automotive Service Industries Show ironed out, full steam ahead has been turned on plans for the big 1948 exhibit.

The location will again be Navy Pier, Chicago; the dates are December 6-10. As in the past, sponsoring associations are Motor & Equipment Wholesalers Association, Motor & Equipment Manufacturers Association and National Standard Parts Association.

A 5-day show is scheduled for this year, instead of 6 days as in the past. On the first three days, December 6, 7, 8, the show will be open to members of the sponsoring associations only. Invited guests may attend the last two days, December 9-10 only.

The Joint Operating Committee, which is responsible for the planning and conduct of the

*(Continued on page 144)*



Henry Ford, II, president of the Ford Motor Company, in Britain on a ten-day inspection of the Ford plants, visited the Dagenham plant. He announced that his company's British affiliate would ship 6,000 small cars and trucks for sale in the U. S. in the next six months. Here, at the Dagenham factory, Ford drives off the assembly line the first of the small cars.

## 1948 Indianapolis 500-Mile Race Shapes Up As Probably Fastest of All Time

The starting bomb, denoting the beginning of the 1948 Indianapolis 500-mile race, will explode at 10:00 a.m.

A record number of nine racing "teams" of two or more cars are already included in the field of approximately 60 cars which will seek starting positions in the 32nd running.

Lou Moore, who finished his Blue Crown Spark Plug Specials in first and second positions last year, will attempt to repeat with the same cars and drivers, Mauri Rose and Bill Holland, and also has entered a brand new third car whose driver has not yet been named. Three Don Lee Specials, the fast Mercedes, an Alfa Romeo and a new American-built racer will match Moore's entry in numerical strength. The seven other teams nominated are: Bud Winfield's two Novi Grooved Piston Specials with Cliff Bergere and Chet Miller at the wheels; "Cotton" Henning's two Bennett Brothers Specials with Ted Horn, Nation-

al champion for two straight years, and George Connor as drivers; Bayard T. Sheffler's two cars with Bill Sheffler and Jack McGrath as drivers; Murrell's two entries with Tony Bettenhausen one driver and the other yet unnamed; Dick Cott's two entries with Russ Snowberger named as one of the drivers; two Grancor Specials to be driven by Pete Romceovich and Anthony Grantelli, and Lou Faggeol's Two Twin Coach Specials with drivers yet unnamed.

Pre-race excitement is particularly high because all but one of the top 10 drivers in the final AAA point standing last year are among early entrants. The exception is Emil Andres, who, according to reliable reports, will be "in the running".

This year a coast-to-coast network of 500 radio stations will bring a trackside-description of the 500-mile sports extravaganza to additional thousands over the Mutual Broadcasting System

*(Continued on page 148)*

## Driving Comfort Further Increased in 1948 GMCs

Important new driver comfort and convenience features in addition to the many introduced in 1947, are being offered on certain models of the 1948 GMC light and medium duty lines, the GMC Truck & Coach Division of General Motors announced recently.

For 1948, all models of the FC-100 and FC-150 series, comprising units of 4600 to 5800 pounds gross vehicle weight, have a new steering column gearshift, a newly-designed foot-operated parking brake and a redesigned 3-speed Syncro-Mesh transmission as standard equipment. Models of the FC-250 and FC-300 designation and those of the FC,FF-350 series—in gross vehicle weight ranges of 880 to 16,000 pounds—now have a completely new 4-speed Syncro-Mesh transmission which is also optional on the FC-100, 150 lines. When installed in these latter units, however, gearshift and parking brake levers are conveniently placed.

Many advantages are cited for the new features. The changed location of the gearshift lever and inclusion of the foot-actuated parking brake in the lighter units clears the floor of all obstruction, thereby providing more leg room for driver and passengers in cab models and

*(Continued on page 150)*

All tenants of the Automotive Building, Denver, Colo., are manufacturers representatives. The building provides a central headquarters for the convenience of buyers and is able to afford the obvious advantages of a unit developed for the use of automotive salesmen. The building contains over 7,000 sq. ft. in the heart of Denver's automotive district. It contains two, three, and five room suites.



# SLANTS

## on the NEWS

by CHARLES M. KENYON

- ★ Used car dealers have found the winter long and hard indeed. The "seasonal" slump in the grossly inflated used car market has stayed right down with the thermometer, and the frisky action of the last few days many of them believe in nothing more than the effect of the first few sunny days in spring. On the other hand finance companies are tightening credit extension and cutting the percentage of used cars they will finance. Repossessions are said to be over 50 per cent higher than they were last fall.
- ★ That General Motors interest in the new Kettering high compression engine is more than academic became evident with the announcement that Oldsmobile was preparing a Kettering engine plant in Lansing. No other official comment was forthcoming, but the general impression is that the increase in compression ratio will be gradual.
- ★ The increase may be even slower than gradual, for Robert E. Wilson, chairman of the board of Standard Oil Co., is not at all optimistic about production of the high octane gasoline needed by the high compression engine. The current demand for petroleum products is so great, he stated, that until this pressure is relieved, no increase in octane rating will be attempted.
- ★ Butyl rubber inner tubes, stiffened by the low temperatures of the past winter, gave considerable trouble. Engineers explained that because the stiffened tube does not warm up as rapidly as the tire, it folds, chafes, and eventually leaks. Although research in compounding butyl to overcome the condition is now underway, there is a possibility that natural rubber tubes for passenger cars will come on the market again in the fall.
- ★ That the luxury car market has "softened" is accepted by many people as a fact, but apparently the softening has penetrated only to a few models in a few places. For example D. E. Ahrens, general sales manager of Cadillac, declares that his backlog of orders has climbed from 90,000 in January to 120,000 in April, despite record breaking deliveries. Nor is it yet a bitter battle for dealers in other luxury lines to keep the unmoneyed wolves from their doors. If the new car market is at all "soft", the term is relative only to the fabulous "hardness" of two years ago when buyers, dreaming of goods they had been too long without, forgot that even a post-war dollar has to be earned. Some of the carelessness is being tempered with caution, but demand for a good product at a reasonable price is today constantly pulling ahead of supply. From where we sit we cannot yet see even the dawn which precedes a buyers' market in new automobiles.

# NEWS SCENE

## ARO Appoints Leitch V P and General Manager

John C. Markey, president of The Aro Equipment Corporation, recently announced the



election of Walter C. Leitch as vice president and general manager. Since 1921, Leitch has been associated with Gilbert & Barker Manufacturing Company of Springfield, Mass., most recently as general sales manager of that company.

Markey said that Leitch's appointment would in no way affect other personnel. He added that his own managerial duties had been turned over to Leitch in order that he could devote more time to other affairs, including the company's oil interests.

The Aro Equipment Corporation manufactures automotive and industrial lubricating equipment, grease fittings, air tools for automotive service and industrial use, aircraft products and hydraulic pumps, and have a world-wide distribution organization.

## McQuay Norris Announces Contest For Mechanics

Over \$5,000 in prizes will be awarded to garagemen, mechanics and members of their families in the big Leak-Proof Piston Ring contest.

The Leak-Proof contest, just announced by C. C. Tapscott, Advertising Manager of the McQuay-Norris Manufacturing Company, St. Louis, consists of adding a line to a jingle based on the qualities of Leak-Proof Piston Rings.

133 cash prizes will be distributed to winning contestants. First prize winner will receive \$1500. \$250 will go to the second prize winner and \$100 will go to the third place contestant. 130 additional prizes of \$25 each will be awarded to contestants.

"We have limited entries in this contest to mechanics, garagemen and their families," stated Tapscott, "because we want the prize money to go to persons active in the car repair industry. This contest has not been devised to attract millions of entries."

Leak-Proof jobbers, in every section of the country, have been advised about the contest and furnished a supply of contest entry blanks and contest rules.

## Johnston Honored By Over 400 Ford Dealers

C. Gordon Johnston, assistant district manager of the Ford Motor Co. in Chester for the past ten years, was honored last night at a dinner in the Warwick.

About 400 Ford dealers, including a delegation from North

Carolina, paid tribute to Johnston who has been appointed district manager of the Ford Co. at Charlotte, N. C.

Johnston was presented with a set of flat and service silver by the dealers in the Chester district.

Charles R. Beachman, regional manager of the Southeastern region of the Ford Co., and L. W. Smeade, assistant general sales manager, were principal speakers, Thomas P. Lowry, Jr., of Chestnut Hill, was toastmaster.

## 1948 NAPA Regional Conferences Under Way

The 1948 series of NAPA Regional Conferences opened in Kansas City with more than 200 representatives of NAPA Jobber organizations in attendance. By the conclusion of the twenty-five conferences which will be held throughout the country, the attendance of NAPA Jobber organizations is expected to total more than 6,000.

Following the highly effective pattern originally established by NAPA in its 1938 Regional Conferences, this year's conference is literally a "speechless" convention. The major portion of the conference is devoted to a five-act stage production, with an all-professional cast, which dramatizes current problems confronting automotive jobbers, and shows how the NAPA Jobber can make use of the organized operating and selling systems developed by NAPA to successfully meet and overcome them.

In commenting on the play and the selling methods it portrays, NAPA executives emphasize the fact that there is nothing theoretical in the whole performance. "Every one of the different selling methods and approaches shown on the stage," said Mr. Henry Lansdale, vice president and general manager of NAPA, "is actually being used successfully by NAPA Jobbers in all sections of the country. We are simply using this year's stage production as a vehicle by which NAPA Jobbers,



through the national organization, can most effectively interchange their knowledge of various selling techniques which have proved successful in actual practice."

Included as a part of the stage presentation is a full-color sound movie, titled "A Good Man to Know," which will be made available to NAPA Jobbers and Warehouses, following the Regional Conferences, for use in local trade meetings and clinics. The cast of the film is headed by Guy Kibbe and Ian Keith, both

Another feature of the conference is the colorful display of all the nationally-known parts and supplies which are distributed through NAPA.

### Wheatley is Appointed Grey Rock Sales Manager

James A. Wheatley, Jr., Chicago district manager, has been promoted to replacement sales



manager for the U. S. Asbestos Division of Raybestos-Manhattan, Inc., Manheim, Pa. His headquarters will be at Manheim.

Associated with the friction materials business for over 25 years, Wheatley is well known throughout the automotive replacement industry.

As Chicago district manager for 13 years, he supervised sales of Grey-Rock products for the U. S. Asbestos Division in the mid-western and southwestern states.

Wheatley is a past director of the National Standard Parts Association.



**R. I. JOBBERS SPONSOR SAFETY SALES.** Uniting with retail service dealers in Rhode Island, automotive wholesalers have outlined plans to increase safety service sales throughout the state. Two-hundred service dealers are expected to participate in the merchandising effort. The campaign was presented at a meeting in Providence last month. Shown here (l. to r.) are M. E. Goldman, The Aitkin-Kynett Co.; Luke E. Thorpe, Thorpe Automotive Co. and chairman of the wholesaler's sponsoring committee; Jack Spielmacher, Replacement Parts Co., Inc. and president of the Automotive Wholesalers Assn. of Rhode Island; Benton H. Rosen, Franklin Supply Co. and secretary of the wholesalers group; F. J. Maxted, Merchandising Director of Collier's; and Frank P. Tighe, editor, Motor Age.

### Cronin Succeeds Romney As AMA Executive

The appointment of William J. Cronin to replace George Romney as Managing Director of the Automobile Manufacturers Association was announced last week by George W. Mason, President of AMA. Mr. Romney, who is well known among dealers throughout the country, tendered his resignation to the AMA Board of Directors last Monday to become Assistant to the President of Nash-Kelvin Corporation.

### M. A. Boyle Promoted By Alpha Metals Inc.

M. A. Boyle has been appointed Sales Manager of the Soldier Division of Alpha Metals, Inc., Brooklyn, N. Y. Boyle steps up from the post of Sales Promotion and Advertising Manager, a position he has held since joining Alpha two years ago.

### Hollingshead Corp. Names Lukens to Vice Presidency

One of the country's foremost leaders in export circles, W. H. Lukens, was accorded new recognition today with announcement by his company of promotion to Vice President in Charge of Overseas Sales. Lukens has been Export Manager of the R. M. Hollingshead Corporation, for more than 23 years.

He recently retired as president of the Overseas Automotive Club after serving two terms, and is past president and present director of the Foreign Traders Association of Philadelphia.

### Kleinkort Named Sales Head of Ramapo Ajax

Joseph P. Kleinkort has been appointed General Sales Manager of the Ramapo Ajax Division of the American Brake Shoe Company, according to an announcement by J. S. Hutchins, Division President.

Mr. Kleinkort, formerly Eastern District Sales Manager, has served in various sales positions since joining the Brake Shoe Company in 1923. He is a graduate of St. Louis University in St. Louis, Missouri. In his new position he will be located in American Brake Shoe's General Offices in Chicago, Illinois.

### Humble Named Sales Head Of Kester Solder Company

Joseph H. Humble of the Kester Solder Company, Chicago has been appointed General Sales and Advertising Manager as announced by Mr. F. C. Englehart, President. Mr. Humble has been associated with Kester Solder Company for twenty-five years.

# CLEARING HOUSE

## FOR SERVICEMEN'S QUERIES

• • • By JACK MONTGOMERY • Technical Editor



Jack Montgomery is undoubtedly one of the most widely known automotive repairmen in United States. For many years he has been the technical expert for Motor Age and for the Flat Rate and Service Manual, on servicing problems. Now he will conduct Readers Clearing House under his own by-line. He is a man who will always find the answer to tough service problems. He has had years of experience as everything from grease boy to service manager of a large truck fleet, and if he doesn't know the answer he knows where to look it up. But don't let the "technical editor" title fool you. Jack gets his own hands dirty on actual repair work every day. He was, and will continue to be first of all a mechanic who works on cars, then second a writer who can tell other mechanics what he knows in terms they understand.



### Clogged Breather Pipe May Cause Oil Leak

We have a 1946 Pontiac 8, 4 door Sedan, with a bad oil condition. We believe we have checked everything, put in a new vacuum repair kit in the fuel pump, and checked every oil connection while the motor was running. The car does not smoke, so we know that it is not burning oil.

This automobile takes about 2½ to 3 quarts of oil to 800 miles. Oil pressure is about 10 lbs. more than normal. We have

checked his oil pressure gage and it registers correct. His oil regulator is in good condition.—V. Hinz, Bonduel Service Garage, Bonduel, Wisconsin.

Regarding your 1946 Pontiac which is burning 2-3 quarts of oil every 800 miles, I suggest that you carefully clean out the breaker cap and also the breather pipe, for if either one of these is clogged it will build up pressure in the crankcase and cause oil to leak from the rear main or timing case cover.

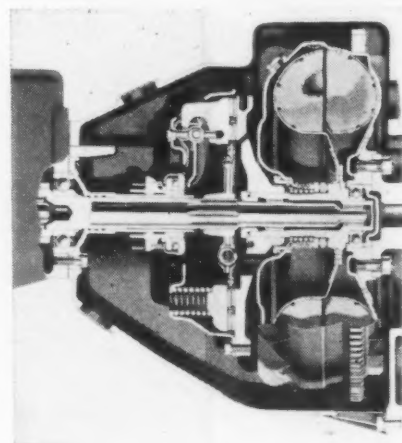
I would suggest you drive this

car down hill with your foot off the accelerator, then step on the gas and watch for smoke coming from the exhaust. If car smokes you can be sure, oil is being burned. Also run your finger around the end of tail pipe and if the carbon is soft that also would indicate it is burning oil.

After making the above tests I would remove the pistons and examine the rings and replace them if necessary.

### 1946 Chrysler Fluid Drive Noisy on Long Climbs

I am having trouble with a 1946 Chrysler Six. It has a very annoying noise when the throttle is stepped on and just before the car comes to a stop. I traced the noise to the carbon seal in the bellows drive, so I replaced the carbon seal and the bellows nut. All went well, the noise went away, then the owner drove



the car to the mountains and the noise began to come in faintly. He drove again to the mountains

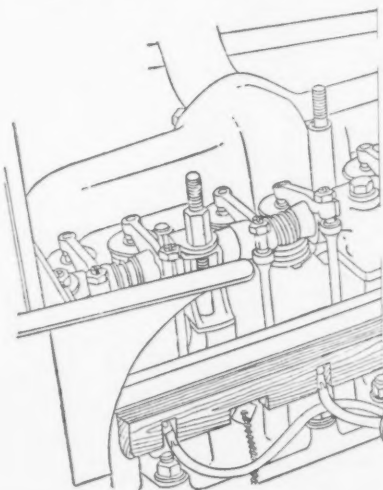
the following week-end, now the noise is as annoying as ever. It seems to be worse when going up long grades, when the motor is turning faster than the bellows are taking hold. It there anything I can do to stop it?—Al J. Lacarra, 1614½ Oak St., Los Angeles 15, California.

Regarding the noise you are experiencing in the fluid drive on your 1946 Chrysler, I would suggest you remove and disassemble the fluid drive unit, and examine the runner hub sealing surfaces very carefully for pitting or scratches. If runner hub is damaged in any way it will be necessary to install a complete unit as these surfaces should not be tampered with.

I would also check the runner hub bearings and replace them if necessary. As you probably know, a faint whirring noise when accelerating is natural on cars equipped with a fluid drive.

### Tractor Burns Oil After Complete Overhaul Job

I have a 1941 Case tractor that uses about 2 to 3 quarts of oil in 12 hours and can't check it. I have put new sleeves, pistons and rings in twice and new crank



shaft, new bearings, new cam-shaft bearing. It doesn't leak any oil and spark plugs never get dirty.—Jack Dietz, Glen Ullin, N. Dakota.

After checking again to be sure that rings and sleeves are not the cause of the trouble I suggest that you remove the rocker arm cover and check the

amount of oil being distributed to the rocker arms. As you know, if excessive oil is getting on the valve springs, it will run down the valve stems and cause high oil consumption.

To remedy this condition you might install a deflector of some sort or meter the oil supply to the rocker arms. I would also clean out the crankcase breather system very thoroughly as pressure can build up in the crankcase and also cause high oil consumption.

### 1941 Chevrolet Motor Gives Trouble in '36 Car

I have two problems with a 1941 Chevrolet motor (from flywheel forward) in a 1936 Chevrolet car—starter, flywheel and clutch are 1936.

1. How can I start the car? The starter will barely start a cold (not hot) engine when the oil has drained from the rings. The starter worked o.k. before the head was milled .060 in. though I think the head may have been "trued-up" before. I have put in a new battery and new cables—all bearings are loose.

2. What can I do to prevent the clutch from slipping? I have put in a new clutch and pressure plate which helped, but the clutch will still slip when you push to a wide-open throttle. Must I face the flywheel flat and put in a larger truck clutch and pressure plate?

Starter armature was turned and tested and new brushes installed—to no avail.—Walter Koskie, 8346 East Sixth Street, Downey, California.

Regarding the trouble you are experiencing with hard starting on your 1941 Chevrolet, I see no reason why starter shouldn't work all right after head was planed .60 inch. Increasing the compression should have little or no effect on starter operation; however, I suggest you remove the starter once more and examine the drive and bearings for wear. If these bearings are worn, starter action will be sluggish. Also there is the possi-

(Continued on page 58)

### BUTCH . . .





(Continued from page 57)

bility of the head gasket leaking.

Remove the head, and when installing a new gasket always use a good grade of gasket cement and tighten the head with a torque wrench.

As to the clutch slipping on the 1936 Chevrolet, I would suggest you remove the assembly and have heavier springs installed in the cover assembly. If the flywheel is scored, I would certainly recommend having it resurfaced. The clutch designed for this car should be able to take care of the torque without slipping. Also make sure that no oil or grease is getting on the clutch disk.

### Oil Pressure Trouble On a Buick Engine

We are having trouble with a 1941 Buick, Series 50. This car came to us some time ago with a complaint of no oil pressure. We installed new piston and rings, new connecting rods, new wrist

pins, new main bearings and rebuilt the oil pump with new gears and shaft and new spring and check valve. We also replaced the rocker arm shaft. Number three piston was .050 in. undersized but was perfect round so we installed a rod with a .050 in. undersized bearing.

Now after running 800 miles, the motor runs perfectly with no noise evident at all and when cold has 60 pounds pressure with SAE 20 oil. After driving the car about 15 miles, when the motor has warmed up to 180 degrees, the oil pressure will drop back to about 35 pounds at 30 maintain as long as you hold your driving speed, but if the motor is allowed to slow down to an idle the pressure drops to zero and thereafter will not go above 5 pounds no matter how the motor is speeded, yet it is not noisy even with the lack of oil pressure. The motor used about a quart of oil in 250 miles. We did not worry about that as the rings did not have a chance to become seated.—George W. Tol-

bert, Tolbert Auto Electric Company, Inc., 556 State Street, Wauertown, New York.

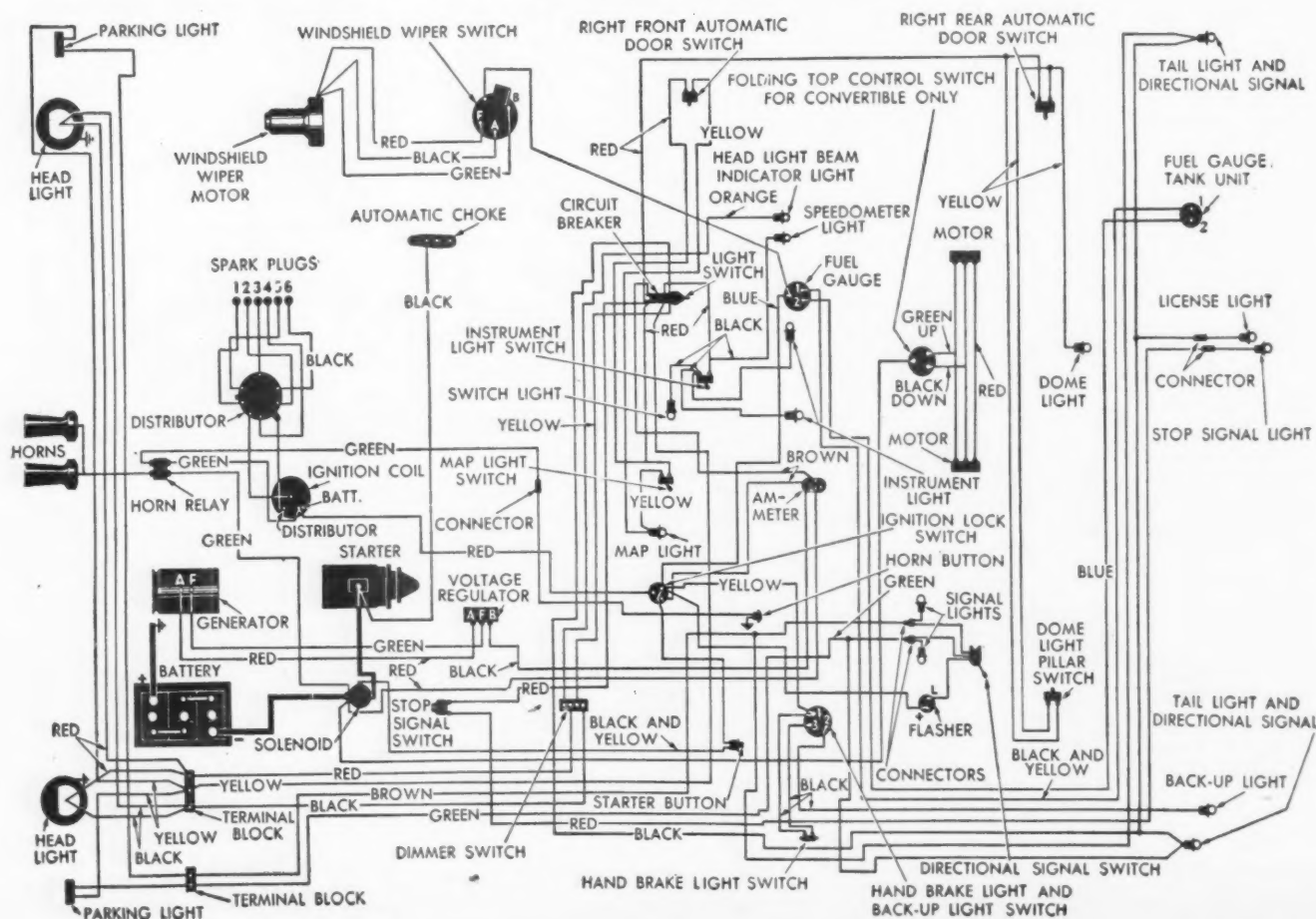
First of all an oil pressure test on this engine to find why the pressure drops.

It is quite possible that the camshaft bearings are worn and should be replaced.

I note in your letter that new oil pump gears, shaft, check valve and spring were installed. In many cases the oil pump cover becomes scored where the gear rides on it and it should also be replaced. When installing screen assembly to cover make sure it fits snugly as it is possible for air to enter at this joint. I suggest wrapping packing around the screen bracket to insure a perfect seal. Make sure the screen is free to pivot up and down without any drag.

Oil is metered to the timing chain through a recess in the back of the camshaft thrust plate and if the thrust plate is badly worn an excessive amount of oil escaping at this point would also cause low oil pressure.

WIRING DIAGRAM OF THE 1947 DODGE



# Current Engine and Tune-Up Specifications

MAKE AND MODEL	ENGINE				TUNE-UP DATA										IGNITION				STEERING			
	Wheelbase (In.)	No. of Cylinders, Bore and Stroke	Taxable Hp.	Piston Displacement (Cu. In.)	Maximum Brake Hp. (at Specified R.P.M. with Bare Engine)	Compression Ratio	Spark Plug Make and Type	Rings		Seat Angle	VALVES			Breaker Point Gap	Cam Angle (Deg.)	Spark Plug Gap	Timing		Caster (Deg.)	Camber (Deg.)	Toe-In (In.)	King Pin Inclination (Deg.)
								No. and Width	No. and Width		Inlet	Exhaust	Operating Tapet Clearance				Inlet	Exhaust				
Buick, Eight, 40	121	8-3 1/2"x4 1/2"	30.6	248.1	110-3600	6.3	AC-48	2-3/8	2-3/8	45	.372-.015H	.015H	13BT	None	•	.025	4BT	Fly	+1 1/2 to +1 3/4	+7/8 to -3/8	1/8 to 3/8	4 1/4
Buick, Eight, 50	124	8-3 1/2"x4 1/2"	30.6	248.1	115-3600	6.6	AC-48	2-3/8	2-3/8	45	.372-.015H	.015H	13BT	None	•	.025	4BT	Fly	+1 1/2 to +1 3/4	+7/8 to -3/8	1/8 to 3/8	4 1/4
Buick, Eight, 70	129	8-3 1/2"x4 1/2"	37.8	320.2	144-3600	6.6	AC-48	2-3/8	2-3/8	45	.372-.015H	.015H	14BT	None	•	.025	6BT	Fly	+1 1/2 to +1 3/4	+7/8 to -3/8	1/8 to 3/8	4 1/4
(a) Cadillac, Eight, 61, 62, 60S	(a)	8-3 1/2"x4 1/2"	39.2	346.0	150-3400	7.2	AC-104	2-3/8	2-3/8	45	.372 HA	HA	TC	VD	31±	.030	5BT	VD	-1 1/2 to +1 3/4	-5/8 to +3/8	3/8 to 3/8	5-51'
Cadillac, Eight, 75	136 1/4	8-3 1/2"x4 1/2"	39.2	346.0	150-3400	7.2	AC-104	2-3/8	2-3/8	45	.372 HA	HA	TC	VD	31±	.030	5BT	VD	-1 1/2 to +1 3/4	-5/8 to +3/8	3/8 to 3/8	5-51'
Chevrolet, Six, F, F-K	116	6-3 1/2"x3 3/4"	29.4	216.5	90-3300	6.5	AC-M8	2-123	2-123	30	.340-.006H	.013H	3BT	Fly	.021	.040	5BT	Fly	0 to 30	-15±30	0 to 1/8	4 3/4±30'
Chrysler, Six, C-38	121 1/2	6-3 1/2"x4 1/2"	28.3	250.6	114-3600	6.6	AL-A5	2-3/8	2-3/8	45	.341-.008H	.010H	12BT	VD	.020	.025	2AT	VD	0 to +1	0 to +3/4	0 to 1/8	4 3/4 to 6
Chrysler, Eight, C-39	127 1/2	8-3 1/2"x4 1/2"	33.8	323.5	135-3400	6.7	AL-A5	2-3/8	2-3/8	45	.341-.008H	.010H	12BT	VD	.018	.025	2AT	VD	0 to +1	0 to +3/4	0 to 1/8	4 3/4 to 6
Chrysler, Eight, C-40	145 1/2	8-3 1/2"x4 1/2"	33.8	323.5	135-3400	6.7	AL-A5	2-3/8	2-3/8	45	.625-.008H	.010H	12BT	VD	.018	.025	2AT	VD	0 to +1	0 to +3/4	0 to 1/8	4 3/4 to 6
Crosley, Four, CC-48	80	4-2 1/2"x2 1/4"	10.0	44.0	26.5-5400*	7.5	AL-A7	2-3/8	2-3/8	45	.313-.004C	.006C	5BT	Fly	.020	.025	12BT	Fly	2	2	1/4 to 1/8	6 1/2
Dodge, Four, D2	108	4-3 1/4"x4	16.9	133.0	46.5-3200	5.5	CH	2-3/8	2-3/8	45	.340-.008H	.010H	12BT	Fly								
Die Soto, Six, S-11	121 1/2	6-3 1/2"x4 1/2"	28.3	236.6	165-1000	6.6	AL-A5	2-3/8	2-3/8	45	.340-.008H	.010H	12BT	VD	.020	.025	TC	VD	0 to +1	0 to +3/4	0 to 1/8	4 3/4 to 6
Dodge, Six, D-24	119 1/2	6-3 1/2"x4 1/2"	25.3	230.2	160-1000	6.7	AL-A5	2-3/8	2-3/8	45	.340-.008H	.010H	12BT	VD	.020	.025	2AT	VD	0 to +1	0 to +3/4	0 to 1/8	4 3/4 to 6
Ford, Six, 87HA	114	6-3 3/4"x4 1/2"	26.1	226.0	90-3300	6.7	CH-H10	2-092	2-186	45	.310-.014	.014	5BT	None	.015	.025	1BT	None	1/4 to 1	1/4 to 1	0 to 1/8	8
Ford, Eight, 88A	114	8-3 1/2"x4 1/2"	32.5	239.4	100-3600	6.7	CH-H10	2-092	2-154	45	.310-.011	.015	TC	DH	.015	.026	4BT	None	3/4 to 1	3/4 to 1	0 to 1/8	8
Ford, Six, F485-F486	123 1/2	6-3 1/2"x4 1/2"	26.3	226.2	100-3600	7.3	AL-A5B	2-093	2-154	30	.341-.014C	.014C	10BT	VD	.022	.032	TC	VD	0 to +1	0 to +3/4	0 to 1/8	5 1/2 to 6
Hudson, Six, 481-482	123 1/2	6-3 1/2"x4 1/2"	30.4	262.0	121-4000	6.5	CH-J9	2-078	2-(r)	45	.341-.010H	.012H	10 1/2 BT	Fly	.020	.032	TC	Fly	1/4±3/4	1/4±3/4	1/8±3/8	3-36'
Hudson, Eight, 483-484	123 1/2	8-3 1/2"x4 1/2"	28.8	264.0	128-4200	6.5	CH-H10	2-093	2-(r)	45	.341-.006H	.008H	10 1/2 BT	Fly	.027	.032	TC	Fly	1/4±3/4	1/4±3/4	1/8±3/8	3-36'
Kaiser, Six, K481-K482	123 1/2	6-3 1/2"x4 1/2"	26.3	226.2	100-3600	7.3	AL-A5B	2-093	2-154	30	.341-.014C	.014C	10BT	FVD	.022	.032	TC	VD	0 to +1	0 to +3/4	0 to 1/8	5 1/2 to 6
Lincoln, Twelve, 876H	125	12-2 1/2"x3 1/2"	39.6	292.0	125-3600	7.2	CH-H9	2-093	2-186	45	.310 HA	HA	10-4BT	TG	.015	.027	2BT	None	1/4 to 3/4	1/4 to 3/4	0 to 1/8	
Mercury, Eight, 98M	118	8-3 1/2"x4 1/2"	32.5	239.4	100-3600	6.7	CH-H10	2-091	2-154	45	.311-.011	.015	TC	DH	.015	.026	4BT	None	1	1	1/8 to 3/8	8
Nash, Six, 4840	112	6-3 1/2"x3 3/4"	23.4	172.6	82-3600	7.0	AL-A5	2-093	2-186	44	.341-.015	.015	6BT	None	.020	.025	TC	VD	1/4 to 3/8	1/4 to 3/8	1/8 to 1/4	7
Nash, Six, 4850	121	6-3 1/2"x4 1/2"	27.3	234.8	112-3400	7.0	AC-44	2-093	2-154	44	.372-.015	.018	4 1/2 BT	None	.020	.025	TC	VD	1/4 to 3/8	1/4 to 3/8	1/8 to 1/4	5
Oldsmobile, Six, 66, 76	119	6-3 1/2"x4 1/2"	29.4	238.1	100-3400	6.5	AC-45	2-3/8	2-3/8	30	.342-.008H	.011H	5BT	None	.020	.030	TC	Fly	1/4 to 3/8	1/4 to 3/8	1/8 to 1/4	4-51' 10"
Oldsmobile, Eight, 88, 78	125	8-3 1/2"x3 3/4"	33.8	257.1	110-3600	6.5	AC-45	2-3/8	2-3/8	30	.342-.008H	.011H	5BT	None	.015	.030	2BT	Fly	1/4 to 3/8	1/4 to 3/8	1/8 to 1/4	4-51' 10"
Oldsmobile, Eight, 88	125	8-3 1/2"x3 3/4"	33.8	257.1	115-3600	7.0	AC-45	2-3/8	2-3/8	30	.342-.008H	.011H	5BT	None	.015	.030	2BT	Fly	1/4 to 3/8	1/4 to 3/8	1/8 to 1/4	4-51' 10"
Packard, Eight & Del, 8	120	8-3 1/2"x3 3/4"	39.2	288.0	130-3600	7.0	(k)	2-(f)	1-186	30	.341-.007H	.010H	10BT	None	.017	.028	6BT	A	0 to 3/4	-1 1/2	0 to 1/8	5-50'
Packard, Super Eight	120	8-3 1/2"x4 1/2"	39.2	327.0	145-3600	7.0	(k)	2-(f)	1-186	30	.341-.007H	.010H	10BT	None	.017	.028	6BT	A	0 to 3/4	-1 1/2	0 to 1/8	5-50'
Packard, Custom Eight	127	8-3 1/2"x4 1/2"	39.2	356.0	160-3600	7.0	(k)	2-(f)	1-186	30	.341 AA	AA	4BT	None	.017	.028	6BT	A	0 to 3/4	-2 1/2	0 to 1/8	5-50'
Playboy, Four, A-48	90	4-2 1/2"x3 1/2"	13.2	91.0	40-3600	7.5	CH-C8	2-093	2-249	30	.314-.012H	.012H	TC	None	.025	.025	TC	Fly	2	2	12"	12"
Plymouth, Six, P-15	117	6-3 1/2"x4 1/2"	25.3	217.8	95-3600	6.6	AL-5	2-3/8	2-3/8	45	.340-.008H	.010H	12BT	VD	.020	.025	TC	VD	0 to +1	0 to +3/4	0 to 1/8	4 3/4 to 6
Pontiac, Six, 26	(f)	6-3 1/2"x4 1/2"	30.4	239.2	93-3400	6.5	AC-45	2-3/8	2-3/8	30	.312-.012H	.012H	5BT	CC	.020	.025	4BT	Fly	1/2 to 1	1/2 to 1	0 to 1/8	5
Pontiac, Eight, 27, 28	(f)	8-3 1/2"x3 3/4"	33.8	248.9	107-3700	6.5	CH-J7	2-3/8	2-3/8	30	.312-.012H	.012H	5BT	CC	.015	.025	4BT	Fly	1/2 to 1	1/2 to 1	0 to 1/8	5
Studebaker, Six, 75G	112	6-3 1/2"x4 1/2"	21.5	169.6	80-4000	6.5	CH-J7	2-(g)	1-186	45	.312-.016C	.016C	5BT	FVD	.020	.025	2BT	FVD	1/4 to 1/4	1/4 to 1/4	1/8 to 1/8	5 1/2
Studebaker, Six, 15A	119	6-3 1/2"x4 1/2"	26.3	226.2	94-3600	6.5	CH-J7	2-3/8	2-3/8	45	.343-.016C	.016C	5BT	FVD	.020	.025	2BT	FVD	1/4 to 1/4	1/4 to 1/4	1/8 to 1/8	5 1/2
Willie, Six, 663	104	6-3 1/2"x3 1/2"	21.6	148.5	72-4000	6.4	AL-A7-F	2-3/8	2-3/8	45	.340-.014	.014	5BT	None	.020	.030	TC	A	1	1	1/8 to 1/8	5

\* With Standard Accessories  
 † Plus or Minus 1 1/2°  
 ‡ At 1/2° Camber  
 § Depressure in Camshaft Gear  
 • Do not recommend using a dwell meter for checking point opening

(a) Models 61 and 62—126 in., Model 60S—133 in.  
 (c) Upper Ring 3/8 in., Lower Ring .1860 in.  
 (f) Models 25 and 27—119 in., Models 26 and 28—122 in.

(g) Top Ring 3/8; Middle Ring 1/2  
 (k) Auto-Lite P4 or AC104 or Champion V4A  
 (l) No. 1—693; No. 2—1235  
 (r) Upper Ring 3/8; Lower Ring 1/2

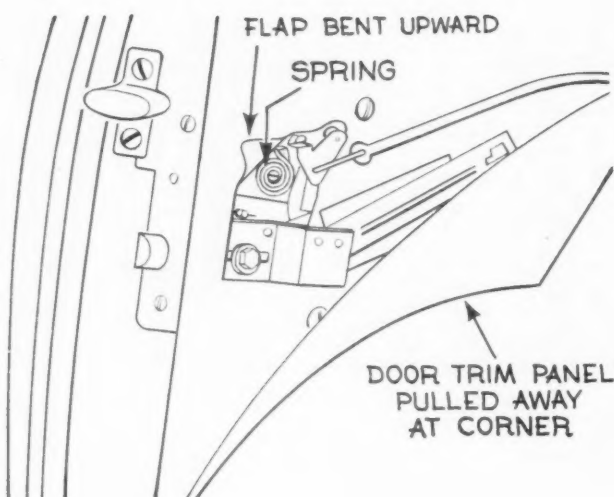
A—Rods removed from above  
 AA—Automatic Adjustment  
 AC—AC Spark Plug Div.  
 AL—The Electric Auto-Lite Corp.  
 AT—After Top Center  
 B—Rod removed from below

BT—Before Top Center  
 C—Cold  
 CC—Crankschaft and Camshaft Sprockets  
 CH—Champion Spark Plug Co.  
 DH—Distributor Housing  
 FV—Flywheel  
 FVD—Flywheel Vibration Damper  
 N—Negative  
 TC—Top Center  
 TG—Timing Gears  
 VD—Vibration Damper

# SHOP KINKS

\$★  
**25**

**FOR THE BEST KINK  
PUBLISHED EACH MONTH**



○ **ON General Motors pleasure cars 1941-1947 models**  
I replace the lock springs as follows:

Instead of removing garnish moulding, handles, upholstery, etc., to remove the entire lock, I only remove the garnish moulding and bend back the upholstery to uncover the lock. I then bend the thin sheet metal of the door that hides the broken lock spring and remove same. Replace spring and then lock-metal.

Considerable time and labor is saved, and the door is none the worse for wear.—*George Baxt, c/o Bay Ridge Auto Wrecking Co., Inc., 613 65th St., Brooklyn, N. Y.*

## Replacing Hard to Get Part With a Common One

Here is a little trick that will work on Chrysler products. I have found that by taking a gas tank gage unit for a 1940-41 Chevrolet and bending the shaft that holds the float to a reverse position, it can be used accurately on all 1946-47 models.

The reason for bending the shaft is that there is installed in the gas tank of '46-'47 models a filter, so the float has to be reversed to miss this filter. Also this unit for '46-'47 cars is hard to get, so take a '40 or '41 and make a '46 or '47 by clamping the shaft in a vise at the base to keep from harming the unit. I take a pair of pliers and bend the shaft so the float is in the opposite direction.—*Bert E. Blevins, Service Manager, Dodge-Plymouth Wurts Bros., Ashland, Ky.*

## Replacing Nut on Hard To Reach Generator Bolt

After struggling for a half hour or more trying to place a 5/16 in. nut on the bolt which holds the rear end of the generator on a White Horse truck, I came upon the idea of counter-boring into a concave about



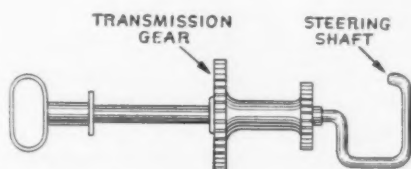


three threads of the nut. Then I just slipped the concave end of the nut over the bolt and it would hang on the bolt so that I could turn the nut and wind it onto the bolt.

There is just enough room for two fingers between the generator and the engine.—*Joseph J. Cadero, 1819 35th Ave., San Francisco 22, Calif.*

### A Sliding Hammer Made From Shop Odds and Ends

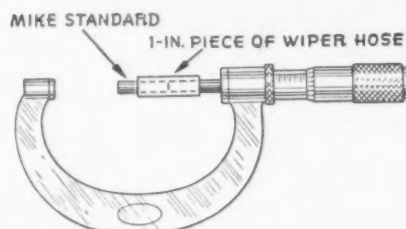
When we found that we needed a sliding hammer for use on grille and body work, we decided to try to make one up from materials available around the shop. The result, which was produced by means of a little bend-



ing and welding, is shown in the sketch. It has been very handy around the shop. — *J. R. Alexander, Weyers Cave, Virginia.*

### Wiper Hose Plus Standard Fits Mike to Many Jobs

Here is a shop kink I have used on main bearing line ream jobs. On some motors the rear



main thrust is so covered up and set into cap and block that the correct size "mike" will not fit inside or outside of bearing to "mike" for correct thrust clearance.

I use a 2-inch or a 3-inch "mike" standard and a one inch length of vacuum (windshield wiper) hose. Push halfway on "mike" spindle and half-way on "mike" standard. Then use a larger "mike" adaptable to each peculiar job, as per drawing.—*D. E. Smith, 318 Berkeley, Santa Ana, Calif.*

### Locating Shorts With Old Buick Light Switch

For locating shorts on cars which burn fuses, I take the

Surer than the races, steadier than hitting the jackpot. The faster you write 'em, the richer you get. 25 bucks for one lucky fellow! So grab your pencil and spike at least a fin. Send along your idea — write it or draw it, anyway that we can understand it—some short cut to make a job easier or faster, some special tool you can't buy, some kink of your own. Of course, we won't accept any printed by any other publication.

circuit breaker from an old Buick light switch. To this I connect two six-foot leads with clips and connect them across the fuse block. The circuit breaker points will keep opening until the short has been located. —*Henry Kuhlman, 474 Evans St., Wood River, Ill.*

### Special Pliers Aid In Brake Shoe Repair

Here is a handy pair of pliers that can be made very cheaply and is worth its weight in gold.

Take an old pair of pliers and grind as shown, then take a 5/16 bolt and cut the head off and braze the bolt to the pliers. Leave the threads on the bolt as



they keep the pliers from slipping off the pin. This makes a swell tool for removing and replacing the locks on Chevrolet brake shoes '36 to '48. It saves a lot of time. Hold the pin and squeeze the spring down and slip the lock on.—*Hank Devine, 8101 Eastwick Ave., Philadelphia 42, Pa.*



## How come "JALOPPY?"



In which one reader offers an answer to the long unexplained  
riddle of the world's origin.

By CAPT. DAVID M. CLEARY, A.U.S.

**N**O WORD wizard, but a soldier who fooled around some with automobiles as manager of a service station in Philadelphia before coming into the Army, let me offer what I believe to be the first plausible derivation of one of the commonest words in the American language. The word is "jaloppy."

Like many another, I had often wondered where the word came from. Nobody seemed to know. When Frank Tighe was editor of Automobile Trade Journal, before the war, he made several efforts to trace the word, offering a prize to any one of his readers who could furnish a likely explanation of its origin. He sought in vain the genesis of this most-frequently-used term in the

nation's automotive repair shops. And the subject is ignored in all the sources on American slang. So this idea of mine may qualify as pioneering in research.

When the world was told that a United States base had been established in the Galapagos Islands, the news sent me to the reference books for a refresher course on that archipelago in the Pacific Ocean, exactly under the equator.

Right at the start, I was reminded of something I had forgotten since my school days. When the Spaniards landed on the islands in the XVIth Century, they were impressed by the number of huge tortoises there. *Galapago* is Spanish for sea tor-

(Continued on page 128)



Reid and Deas big tow car is kept in top condition and ready to go day or night.

Right. The long low attractive building which houses Reid and Deas dealer agency in West Point, Miss.



by STUART COVINGTON

## TOWING Brings Top Profit

**T**RUSTWORTHY towcar has paid handsome dividends for the Reid & Deas Motor Co., West Point, Miss. The 25-year-old firm specializes in long distance tow service and has found it to be not only an excellent leader but also a profitable source of income in itself.

"We often tow in cars as far as Memphis, 150 miles away," reveals R. R. Marshall, who functions as service manager for the combination garage-service station, "and get many jobs of 50-75 miles or more. We never turn down a towing job if our wrecker is on hand to take it."

Reid & Deas operate a specially built Ford wrecker equipped with road clamps, powerful searchlight, tool box, spare parts and a winch and cable capable of lifting any size truck or car. While the wrecker answers plenty of smashup calls, it usually earns more money for the owners from tow jobs than from re-righting damaged vehicles. Twenty-four hour tow and wrecker service is offered.

Long-distance tow jobs come from a number of sources. In many cases out-of-town motorists suffer car trouble at West Point and prefer to have the vehicle towed back to their home city

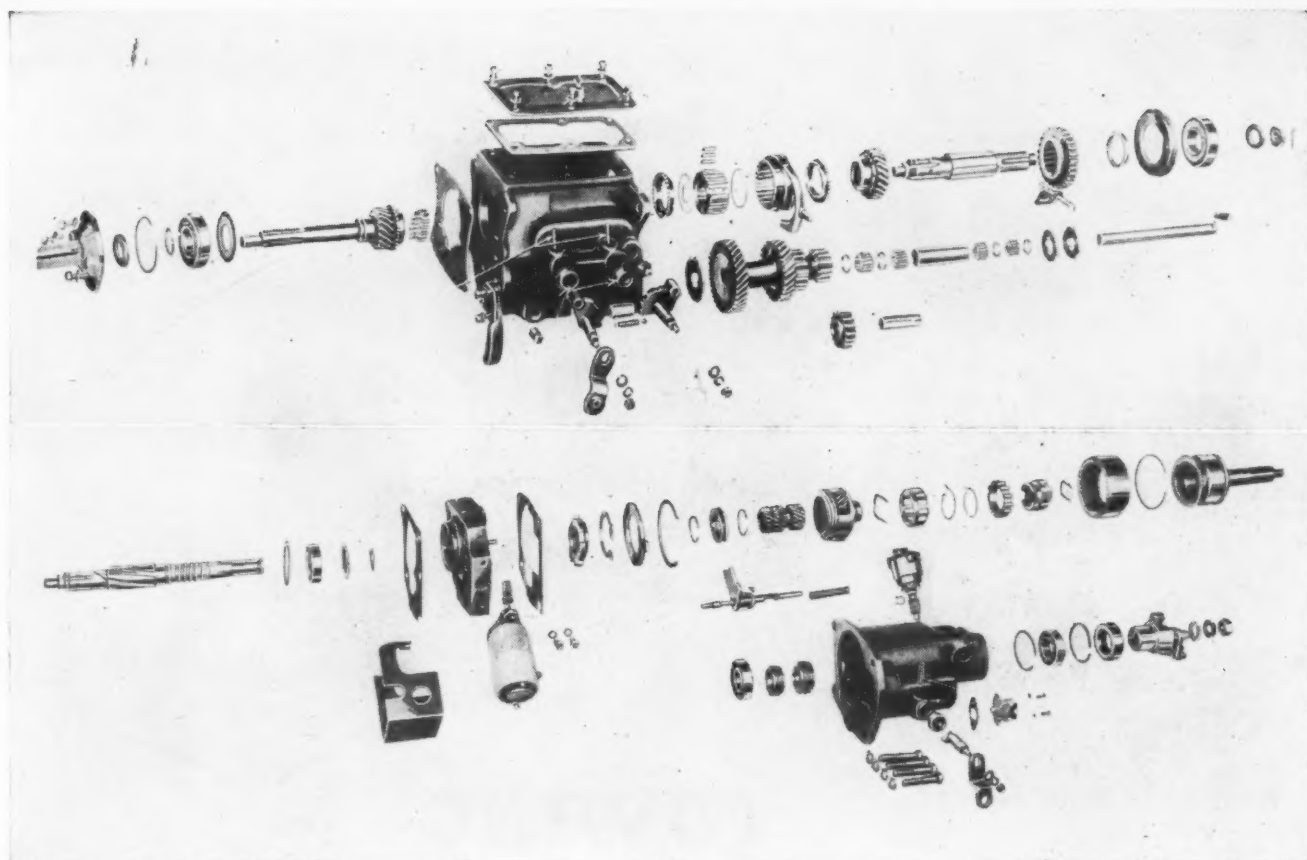
Long distance wrecker service has proved its worth both  
for the advertising value involved and for dollar profit

for repair, either because the work can be done more quickly there or for some other special reason. In some cases the car is too badly damaged for repair, and the owner wishes to sell it for scrap in his home town. Many West Point motorists become stranded or wrecked a considerable distance from home, and, rather than trust their auto to an unknown shop, call Reid & Deas' husky tow car. In some instances local tow and repair service is available at the scene of trouble, but the motorist, knowing that this shop's specialty is out-of-town towing, puts in a long distance call for the wrecker instead.

The tow service is a goodwill builder, too. Most

(Continued on page 130)



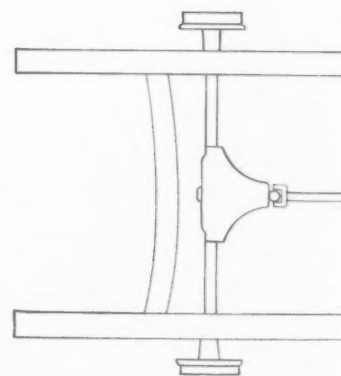


It is important to remember, when starting a job on the overdrive of the Willys Station Wagon, that it is entirely automatic, the shift into or out of overdrive being controlled entirely by the solenoid. The plunger on the dash does not shift the transmission, but merely locks the overdrive unit in or out by breaking or completing the electrical control circuit.

Three electrical circuits control the operation of the overdrive . . . the relay control circuit, the solenoid circuit and the kickdown circuit. These can be traced in the diagram.

The only task of the relay circuit is to control the opening and closing of the points in the overdrive relay. When this circuit is completed through the governor (at car speeds above governor closing rpm) the points in the relay are closed by the magnetic coil. When the circuit is open, spring tension holds these relay points open. The circuit can be controlled (opened or closed) in three ways: By the governor, by the overdrive rail switch or by the kickdown switch.

The governor is a mechanical switch, set to close at a governor rpm of 840, equivalent to a car speed of approximately 30 mph (with a 4.88 to 1 rear axle ratio) or 27 mph (with a 5.38 to 1 ratio). The governor circuit should open at a governor rpm of 680, which is approximately 24 mph on 4.88-1 cars, or 21 mph on 5.38-1 cars.



Above: Exploded view of the transmission.  
Right: Wiring of the overdrive mechanism.

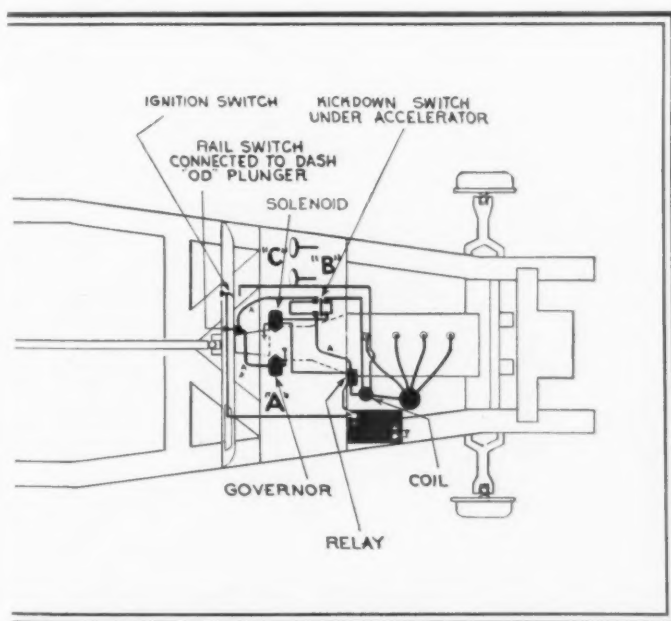
Car speed, therefore is the controlling factor in the circuit.

The overdrive rail switch is manually operated and is controlled by the dash plunger marked "O. D." Pushing the plunger in closes the circuit, pulling it out opens the circuit.

The third controlling unit is the kickdown switch, situated under the accelerator pedal. At all normal road speeds the circuit is held closed

# Servicing the Willys Station Wagon TRANSMISSION

A general survey of the overdrive transmission including operation, trouble-shooting, and removal of the unit, together with an exploded view.



by this switch. When, however, the accelerator is pushed hard against the floor, the kickdown switch opens, breaking the circuit and dropping the car into third for greater acceleration and pulling power.

The solenoid circuit is completed through the solenoid to the ground when the relay points are closed. This causes the actual shifting of the overdrive unit. In operation the closing of the

relay points causes current to flow through the solenoid, moving the solenoid plunger into the transmission. This moves the overdrive pawl into the stationary gear plate.

There are two windings in the solenoid, a heavy and a light winding, connected in parallel. The heavy winding in the closing draws, momentarily as the solenoid moves in, 25 amperes. When the plunger has completed its travel, however, the points in the heavy winding open and the plunger is held in the "in" position by the light winding, which draws only 2 amperes. To protect circuit "C" a 20-amp fuse is mounted on the relay, in series with the circuit.

The kickdown switch, which provides means for the driver to slip into third by pressing the accelerator to the floor, is part of circuit "B". This works in the following way: When the kickdown switch opens circuit "A" the points in the relay open, breaking circuit "C", the solenoid circuit. Breaking circuit "C" stops the flow of current through the solenoid. The solenoid then tries to retract (pull the pawl out of engagement with the stationary gear plate) but the driving torque on the pawl prevents the plunger from retracting. To relieve this torque on the pawl, the kickdown switch opens circuit "A" as it closes circuit "B". This provides a direct ground of the coil primary

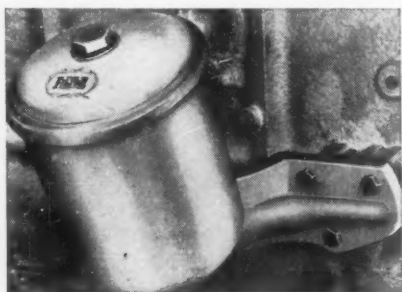
(Continued on page 140)

# NEW

# PRODUCTS

## Filtors Introduces a Chevrolet Filter Line

Filtors, Inc. of Long Island City, New York have introduced the Inner Line Oil Filter for all Chevrolet Cars and trucks from



1940. This filter uses no outside oil line. To install, the oil distributor cover is removed from the cylinder block behind the exhaust pipe and the filter is mounted over the relief valve plates. Where necessary a kit, which is provided with the filter is used to fit the filter to the block.

## Automatic 2-Speed Action Available on Rumsey Jack

A new Rumsey oversize 2 ton Automobile Jack, with an automatic 2 speed feature is now available from Rumsey Products, Inc. of Seneca Falls, New York. The new Rumsey Jack is a heavy-duty hydraulic jack designed with a short frame and long removable handle for use where dollying is not the prime consideration. One, two or at most three strokes raise the sad-

dle to engagement with the load at which point the high pressure pump takes over automatically. No levers need be manipulated. The second speed is completely automatic. The range of lift is  $4\frac{1}{4}$  in. to  $22\frac{3}{4}$  in. An automatic safety device to prevent overloading during lift is incorporated in this unit.

## Peckat Presents Three Additional Accessories

A new all-metal visor, the Peckat Airform, has been developed by the Charles Peckat Manufacturing Company of Maywood, Illinois. Features include a curved aluminum surface, 2-way adjustability and patented clamp-on brackets that permit installation without the need for drilling holes. The double adjustability permits one model to fit all cars. Also announced is the Peckat Signal-Vu,



a plastic lens attaches to the windshield by a suction cup to reveal overhead traffic lights, and the Universal Jakit, a water repellent leatherette container for tire tools to keep them clean and prevent rattling.

## Federal-Mogul Connecting Rod Assembly Tool

Federal-Mogul Service of Coldwater, Michigan has introduced a tool to aid in the removal and installation of Ford V-8 connecting rod assemblies. The tool consists of two rectangular



metal pieces approximately five inches long. Each piece has a threaded hole in one end and a tapered clearance hole in the other. The threaded ends are screwed into an old V-8 connecting rod until the face of each is parallel to the rod bore, but clearing it. This assembly straddles the engine crankpin and is inserted into the blade half of the engine connecting rod. By pushing on the handle, the piston and rod assembly is forced out through the top of the cylinder. This tool permits one-man rod assembly installation and protects bearing and crankshaft from damage.

## New Light and Heavy Duty Cleaners Made by Magnus

The Magnus Chemical Company, Inc. of Garwood, New Jersey is offering two new liquid cleaning materials to users of steam gun and vapor cleaning equipment. Designed for light and heavy duty cleaning these materials are instantly soluble in cold water. According to the maker they cannot clog valves of the cleaning unit. They are clear, colorless viscous concentrated alkaline cleaners and are odorless and fumeless.



## Miley Markets Infrared Brake Bonding Oven

The L. J. Miley Company of Chicago, manufacturers of Black Gold Brake Linings and brake shoes, has announced its new Mileybond Infrared Brake Lining Bonding process for attaching Miley Black Gold brake linings to brake shoes with rivets. This new process uses infrared equipment, eliminating the need for warm-up of the bonding ovens. Linings are bonded in from 9 to 12 minutes from the time the shoes are placed in the oven. This unit also acts as a debonder, immediately removing the old linings from the shoes.

## Bending Bar by Plomb Has Adjustable Arms

A patented bending bar, introduced by the Plomb Tool Company, Los Angeles, is featured by adjustable arms. The



two adjustable arms can be placed close together or far apart and can be positioned on the hexagon post so the handle will project at the desired angle. Actually, more than 100 different positions of the arms are possible for bending, straightening, aligning, spreading and forming various parts and materials.

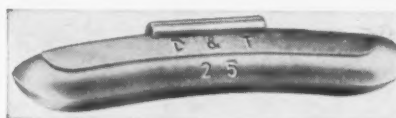
## The New Bear Idea Book Features 150 Photographs

A larger, completely revised edition of the Bear Idea Book has been announced by the Bear Manufacturing Company of Rock Island, Illinois. This Idea Book is essentially a picture book containing illustrations showing how Bear Operators are promoting the Safety Services.

It contains over one-hundred fifty photographs and illustrations showing shop layouts, locations, interior and exterior arrangements and methods of increasing and creating new business. A copy may be obtained from the factory.

## Turner Wheel Balancing Weight Fits Under Rings

The Turner Manufacturing Company of Kokomo, Indiana is featuring a new wheel balancing



weight which is so shaped as to fit snugly under white sidewall rings. It is said to provide great clearance on chrome trim wheel rings. On the majority of cars weights of this design up to 3½ oz. may be used without interference.

## Floz-on Cleaner Available In Liquid or Powder Form

A heavy-duty radiator and block cleaner that cleans in one operation and requires no reverse flushing is being manufactured by Floz-on Manufacturing Company of Pittsburgh, Pennsylvania. Called Floz-on Radiator and Block Cleaner, this new product is said to dissolve grease, rust, and scale in one operation. The product is non-poisonous and is non-injurious to rubber and metal parts. It is not necessary to add an inhibitor or neutralizer after using. It is available in liquid and in powder form.

## "Wrencho" Penetrant Cuts Rust, Varnish or Carbon

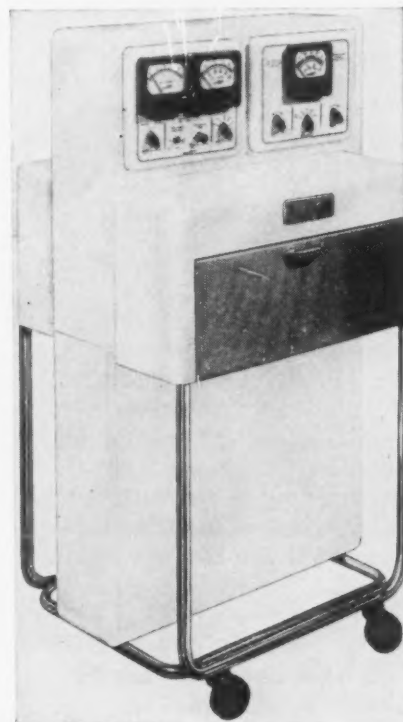
The Service Supply Company of Denver, Colorado is now marketing "Wrencho," a penetrant which according to the manufacturer, loosens nuts and bolts and other parts which have become frozen by rust, corrosion, scale, varnish, carbon or gum. It is available in pint cans with a handy squirt cap and in gallons.

## Bonney Plier Wrench Comes in Two Sizes

The Bonney Forge & Tool Works have added a new plier wrench to the Bonney line of tools. They are made in two sizes, 7 in. and 1 in. and are designed for ease of adjustment and use. The bottom jaw of this plier wrench acts as a hinged fulcrum which permits a solid grip without slippage on irregular objects. If desired, the jaws can be made to grip at the ends only.

## Lanagan & Hoke Offer New Motor Analyzers

A new series of Motor Analyzers designed to house 2, 3 or 4 individual pieces of testing equipment has been announced



by Lanagan & Hoke. These units are particularly designed for use in small shops, service stations, or fleet operations where space is at a premium.

## Lempco Announces Three Additions to Service Line

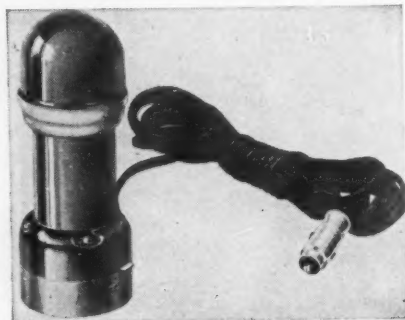
Three additions to the Lempco Products' line of automotive service equipment have been announced. They are a 12 by 36 in. crankshaft regrinder, a one-ton hydraulic crane and a new

(Continued on page 68)

type, quick-setting car stand. The hydraulic crane known as the Mobilcrane is designed for lifting motor blocks, lifting front or rear ends, loading and unloading parts, and so forth. The Quik-Set car stand is set to height merely by raising the piston to the desired level. It forms a solid metal support, without pins or ratchets, and is returned to its closed position simply by inverting the stand.

### Look-Out Lite Plugs Into Socket on Dash

Perry Products, Inc. of Kenilworth, New Jersey have introduced the Look-Out Lite, a new warning and utility light. This



light plugs into the socket on the dash and can be used as a trouble light or warning light. Mounted on a permanent magnetic base, it flashes eighty times per minute if desired. It has a red plastic top and a white band wide enough to provide clear light for making repairs.

### Edison Spark Plug Cleaner Fits Standard Air Lines

The Automotive Division of Thomas A. Edison, Inc. of West Orange, New Jersey is now delivering the new Model 100 Spark Plug Cleaner. The cleaner, with an all-aluminum body and die-cast top and bottom is built to be mounted on benches and, according to the manufacturer, cleans a plug in from three to five seconds. It operates off standard air lines under pressure of 75 to 90 pounds per square inch. It includes a special fabric bag to eliminate dust and rubber adaptors for 10mm, 14mm, 18mm and  $\frac{7}{8}$  in plugs.

### Nelson Tire Inflator Has Automatic Air Shut Off

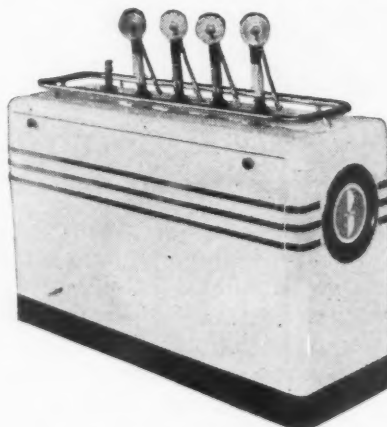
The Nelson Specialty Welding Equipment Corporation is now producing a new tire inflator which is equipped with a regulator which automatically cuts off air flow at any pre-set pressure. In operation the user dials the desired pressure and pushes the chuck on the valve stem. Air automatically cuts off when the desired pressure is reached. Dial is marked in 1 lb. graduations from 10 to 90 lbs. The unit weighs 19½ oz. complete with 12" hose and swivel chuck.

### Low Pressure Seiberling Tire Has Heat Vents

Seiberling Rubber Company has introduced a premium quality extra low pressure tire. Trade-named "Safe-Aire", the Seiberling extra low pressure tire is said by the manufacturer to embody features which increase its safety factor and justify its premium price. Principal features are the company's patented "heat vents" in the tire shoulder, which ventilate the tread area and dissipate excess flexing heat, and a new tread design which is claimed to furnish the maximum possible non-skid traction.

### Balcrank Deluxe Oilette Dispenses Bulk Oil

Balcrank Inc. of Cincinnati has developed the Deluxe Oilette as a simplified method of dis-



pensing bulk motor oil. The Oilette permits the operator to de-

liver oil directly to the crankcase by extending a hose to the car and squeezing a control handle. It contains five hose reels, handling all types of oil or any combination oil, air and water outlets. All supply pumps and drums can be kept outside the unit or in some remote location.

### Red Devil Scraper Adapted to Body Use

A new tool for body and fender bumping and repainting has been developed by the Carbology Company of Detroit and is being manufactured and distributed by Red Devil Tools of Irvington,

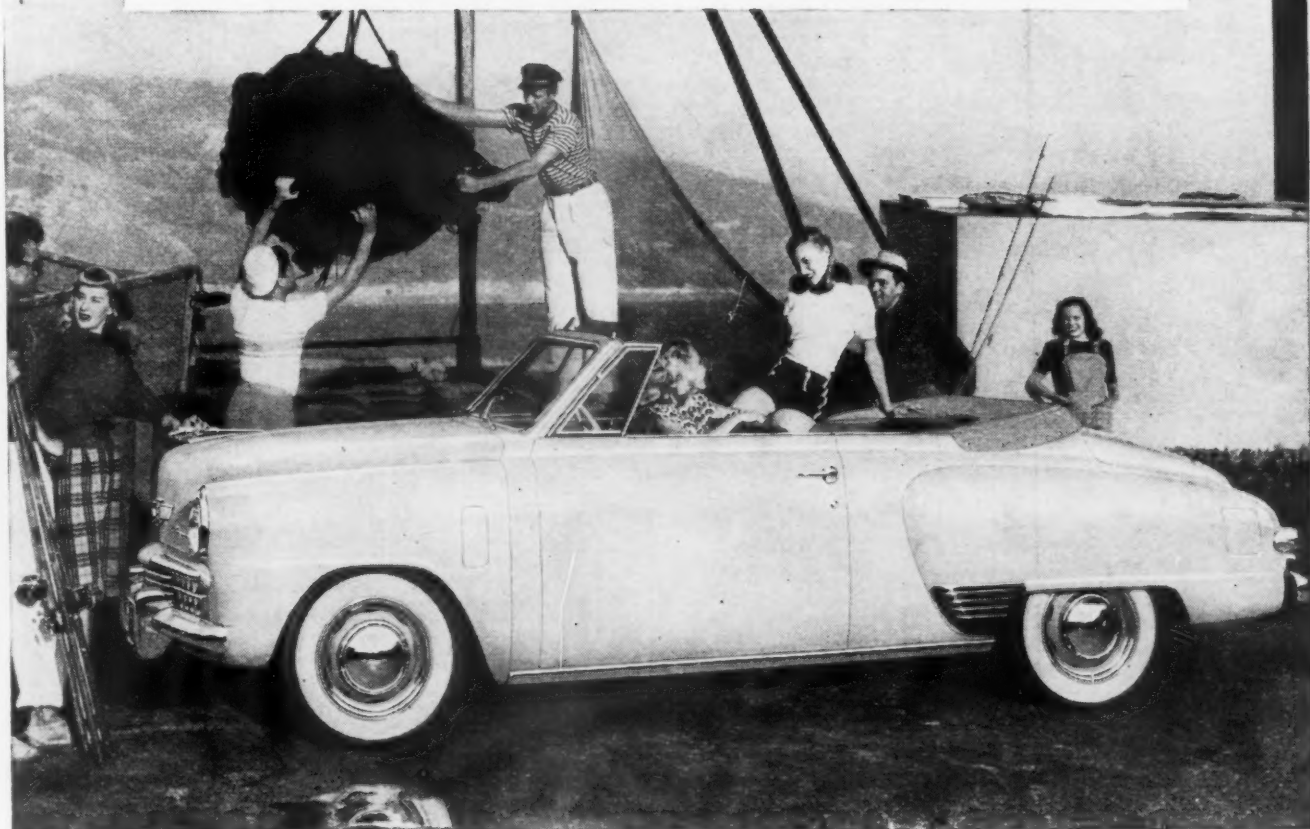


New Jersey. This "Red Devil" scraper has a blade of Carbology cemented carbide and is claimed to remove all kinds of automotive paints, enamels and lacquers from both flat and curved surfaces. The blade has four working edges and four individually shaped corners that fit into almost any mounding or corner. Despite the hardness of the blade of this tool it is claimed that it will not injure the sheet metal underlying the paint being removed.

### Hydraulic Floor Jack With "Finger Tip Control"

The J-4, a new 4 ton hydraulic floor jack, has been announced by the American Chain & Cable Company, Inc. of New York, Pennsylvania. It has ball bearing casters and features "Finger Tip Control." The operating unit of this jack is a complete, sealed-in-steel unit, protected from dirt and dust and removable for inspection.

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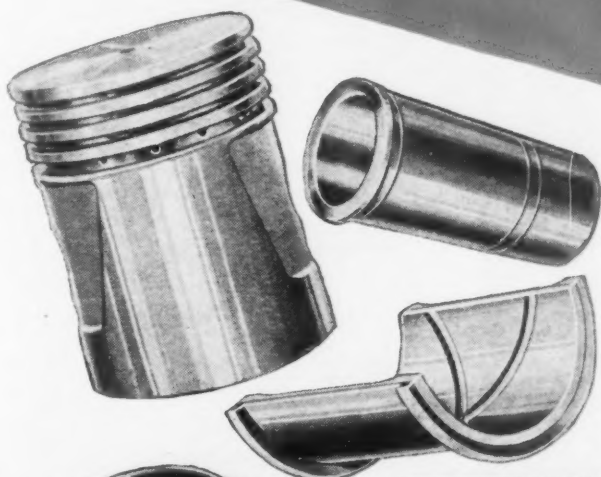


# Current Passenger Car Price, Weight and Body Table

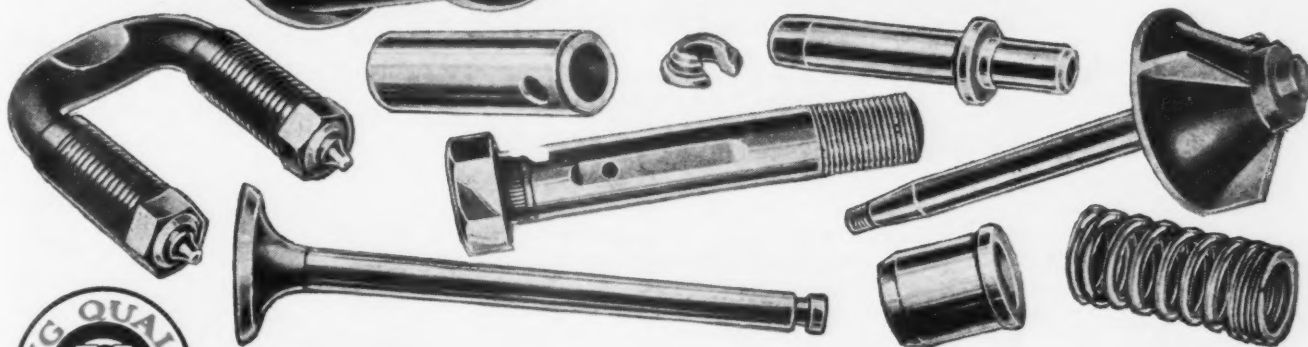
Following are prices at factory for cars with standard equipment as of April 1. State or local taxes, transportation and finance charges and optional equipment are extra.

BODY, MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY, MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY, MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK					DODGE (Continued)					OLDSMOBILE (Continued)				
Series 40					Town Sedan	\$1577	\$ 87	\$1664	3331	Station Wagon	\$2360	\$154	\$2514	
Sedanet, 2nd	\$1497	\$114	\$1611	3670	Convertible Coupe	1812	99	1911	3461	Series 78-Eight	1530	113	1643	3545
Sedan, 4d.	1556	117	1673	3720	Sedan, 8p.	1861	103	1964	3757	Club Sedan	1600	117	1717	3625
Series 50					FORD					Sedan, 4d.	1670	119	1789	3590
Sedanet, 2d.	1708	135	1843	3795	DeLuxe Six	1076	76	1154	3033	Club Sedan, DeLuxe	1740	123	1863	3665
Sedan, 2d.	1790	139	1929	3910	Coupe, 2d.	1133	79	1212	3183	Sedan, DeLuxe, 4d.				
Sedan, 4d.	2175	158	2333	4050	Tudor	1188	82	1270	3213	Series 98-Eight	1790	130	1920	
Convertible Coupe, 2d.	2622	183	2805	4170	Fordor					Club Sedan	1860	133	1993	
Estate Wagon					Super DeLuxe Six	1170	81	1251	3033	Sedan, 4d.	1890	134	2024	3685
Series 70					Coupe	1225	84	1309	3183	Club Sedan, DeLuxe	1960	138	2098	3745
Sedanet, 2d.	1968	163	2131	4095	Tudor	1245	85	1330	3133	Sedan, DeLuxe, 4d.	2310	156	2466	4035
Sedan, 4d.	2065	167	2232	4190	Sedan Coupe	1285	87	1372	3233	Conv. Coupe, DeLuxe				
Convertible Coupe	2463	188	2651	4345	Fordor					PACKARD—1948				
Estate Wagon	3030	219	3249	4445	Deluxe Eight	1150	80	1230	3066	Eight-2201				
CADILLAC					Coupe	1205	83	1288	3216	Club Sedan	1998	127	2125	3750
Series 61					Tudor	1260	86	1346	3246	Touring Sedan	2022	128	2150	3820
Club Coupe, 2d.			2511	4080	Fordor					Station Sedan	3161	189	3350	4080
Touring Sedan, 4d.			2647	4165	Super DeLuxe-Eight	1245	85	1330	3066	DeLuxe Eight-2211				
Series 62					Coupe	1295	87	1382	3216	Club Sedan	2212	138	2350	3770
Club Coupe, 2d.			2719	4145	Tudor	1320	89	1409	3166	Touring Sedan	2235	140	2375	3850
Convertible Coupe, 2d.			3174	4455	Sedan Coupe	1350	90	1440	3266	Super Eight-2202				
Touring Sedan, 4d.			2791	4235	Fordor	1635	105	1740	3266	Club Sedan	2505	160	2665	3810
Series 60-Special					Conv. Club Coupe	1855	117	1972	3520	Touring Sedan	2529	161	2690	3880
Touring Sedan, 4d.			3506	4370	Station Wagon	2150	132	2282	3366	Conv. Victoria Coupe	2990	185	3175	4025
Series 75					Sportsman					Super Eight-2222				
Business Sedan, 9p.			4368	4790	FRAZER					Touring Sedan, 7p.	3109	191	3300	
Touring Sedan, 4d.			4471	4875	Sedan, 4d.	2152	212	2364	3375	Limousine, 7p.	3252	198	3450	
Business Imperial, 9p.			4560	4800	Manhattan Sedan	2550	286	2836	3375	Sedan, DeLuxe, 7p.	3442	208	3650	
Sedan, 4d., 7p.			4686	4895	HUDSON					Limousine, DeLuxe, 7p.	3584	216	3800	
Imperial, 7p.			4887	4930	Super Six-171					Custom Eight-2206				
CHEVROLET					Coupe, 2d., 3p.	1762	128	1890		Club Sedan	3413	212	3625	4140
Stylemaster-EJ					Brougham, 2d.	1822	131	1953		Touring Sedan	3461	214	3675	4210
Business Coupe, 2d.	1080	80	1160	3050	Club Coupe	1867	133	2000		Conv. Victoria Coupe	3860	235	4095	4280
Sport Coupe, 2d.	1120	82	1202	3060	Sedan, 4d.	1870	133	2003		Custom Eight-2226				
Town Sedan, 2d.	1135	84	1219	3075	Convertible Brougham					Touring Sedan, 7p.	4250	254	4504	
Sport Sedan, 4d.	1190	86	1276	3130	Commodore Six-172	1997	140	2137		Limousine, 7p.	4406	262	4668	
Sport Sedan, 4d.					Club Coupe	2020	141	2161	3540	PLYMOUTH				
Fleetmaster-EK					Sedan, 4d.					DeLuxe				
Sport Coupe	1195	86	1281	3090	Super Eight-173	1947	142	2089		Coupe, 3p.	1139	66	1205	2977
Town Sedan, 2d.	1200	86	1286	3125	Club Coupe	1940	142	2092		Sedan, 2d.	1164	68	1232	3047
Sport Sedan, 4d.	1255	90	1345	3185	Sedan, 4d.					Club Coupe	1189	69	1258	3037
Cabriolet	1525	103	1628	3390	Commodore Eight-174	2077	149	2226		Sedan, 4d.	1214	70	1284	3082
Station Wagon	1775	118	1893	3465	Club Coupe	2100	150	2250	3600	Special DeLuxe				
Fleetline-EK					Sedan, 4d.					Coupe, 3p.	1209	69	1278	2982
Aerosedan	1225	88	1313	3125	Convertible Brougham					Sedan, 2d.	1239	71	1310	3062
Sedan	1280	91	1371	3150	KAISER					Club Coupe	1264	72	1336	3057
CHRYSLER					Sedan, 4d.	1967	207	2174	3302	Sedan, 4d.	1289	74	1363	3107
Royal-Six					LINCOLN					Convertible Coupe	1565	89	1654	3282
Coupe, 2d., 3p.	1561	87	1648	3373	Club Coupe	2370	163	2533	3915	Suburban	1669	94	1763	3402
Sedan, 2d.	1626	90	1717	3458	Sedan, 4d.	2390	164	2554	4015	PONTIAC				
Club Coupe, 2d.	1651	91	1742	3443	Club Coupe, Custom	2530	171	2701	3915	Torpedo Six				
Sedan, 4d.	1661	92	1753	3523	Sedan, 4d., Custom	2550	172	2722	4015	Business Coupe	1287	100	1387	
Sedan, 8p.	2043	112	2155	3977	Convertible Coupe	2950	193	3143	4245	Sport Coupe	1336	102	1438	3300
Limousine, 8p.	2163	119	2282	4022	Continental Coupe	4380	282	4662	4125	Sedan, 2d.	1350	103	1453	3305
Windsor-Six					Continental Cabriolet	4460	286	4746	4135	Sedan Coup	1380	104	1484	3305
Coupe, 2d., 3p.	1611	89	1700	3383	MERCURY					Sedan, 4d.	1406	106	1512	3330
Sedan, 2d.	1691	93	1784	3468	Sedan, 2d.	1490	102	1592	3268	Conv. Sedan Coupe	1690	121	1811	3570
Sedan, 4d.	1701	94	1795	3448	Sedan Coupe	1540	105	1645	3218	Conv. Sedan Coupe, DeLuxe	1730	123	1853	
Club Coupe, 2d.	1711	94	1805	3528	Town Sedan, 4d.	1555	105	1660	3298	Streamliner Six				
Sedan, 4d.	1846	102	1948	3610	Club Convertible	1880	122	2002	3368	Sedan Coupe	1439	108	1547	3405
Sedan Traveler	1991	109	2100	3693	Station Wagon	2075	132	2207	3571	Sedan, 4d.	1487	111	1598	3460
Convertible Coupe	2093	115	2208	3977	NASH					Station Wagon, Std.	2092	143	2235	
Sedan, 8p.	2213	121	2334	4052	600 Series					Station Wagon, Del.	2166	146	2312	3725
Limousine, 8p.					Bus. Coupe	1298	101	1399	2635	Torpedo Eight				
Saratoga-Eight	1873	103	1976	3817	Brougham, 2d.	1358	101	1459	2731	Business Coupe	1332	102	1434	
Coupe, 2d., 3p.	1948	106	2054	3900	Slip, Sedan, 4d.	1363	101	1464	2826	Sport Coupe	1381	104	1485	3365
Sedan, 2d.	1958	107	2065	3930	Trunk Sedan, 4d.	1407	101	1508	2786	Sedan, 2d.	1395	105	1500	3375
Club Coupe, 2d.	1973	108	2081	3972	Brougham, Cust., 2d.	1538	110	1648	2731	Sedan Coup	1425	106	1531	3375
Sedan, 4d.					Slip, Sedan, Cust., 4d.	1543	110	1653	2826	Sedan, 4d.	1451	108	1559	3415
New Yorker-Eight	1973	108	2081	3837	Trunk Sedan, Cust., 4d.	1587	110	1697	2786	Conv. Sedan Coupe	1735	123	1858	3645
Coupe, 2d., 3p.	2048	112	2160	3932	Ambassador					Conv. Sedan Coupe, Del.	1775	125	1900	
Sedan, 2d.	2073	113	2186	3987	Brougham, 2d.	1642	121	1763	3312	Streamliner Eight				
Sedan, 4d.	2232	126	2449	4132	Slip, Sedan, 4d.	1659	120	1779	3412	Sedan Coupe	1484	111	1595	3460
Convertible Coupe					Trunk Sedan, 4d.	1701	120	1821	3387	Sedan, 4d.	1532	113	1645	3520
Town & Country-8	2496	136	2632	4300	Slip, Sedan, Cust., 4d.	1839	129	1968	3412	Station Wagon, Std.	2137	145	2282	
Sedan, 4d.	2673	155	3028	4332	Trunk Sedan, Cust., 4d.	1881	129	2010	3387	Station Wagon, DeLuxe	2211	148	2359	3795
Crown Imperial-8					Brougham, Cust., 2d.	1883	69	1952	3312	STUDEBAKER—1948				
Sedan, 8p.	3905	207	4112	4865	Sub. Sedan, 4d.	2097	142	2239	3522	Champion DeLuxe				
Limousine, 8p.	4005	212	4217	4875	Convertible					Coupe, 3p.	1347	99	1446	2600
CROSLEY					OLDSMOBILE					Sedan, 2d.	1412	102	1514	2685
Sedan, 2d.	888			1115	Series 66-Six					Coupe, 5p.	1437	103	1540	2670
Convertible	949			1110	Club Coupe	1385	103	1488	3240	Sedan, 4d.	1442	104	1546	2735
DE SOTO					Club Sedan	1410	103	1513	3285	Champ. Regal DeLuxe				
DeLuxe					Sedan, 4d.	1450	106	1556	3320	Coupe, 3p.	1417	102	1519	2620
Coupe, 2d., 3p.	1451	80	1531	3323	Club Coupe, DeLuxe	1520	108	1628		Sedan, 2d.	1482	106	1588	2710
Sedan, 2d.	1516	84	1600	3418	Club Sedan, DeLuxe	1545	110	1655		Coupe, 5p.	1507	107	1614	2680
Club Coupe	1541	85	1626	3413	Sedan, DeLuxe, 4d.	1585	112	1697		Sedan, 4d.	151215			

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## The New Lincoln . . . . . (Continued from page 35)

sealed against body air leaks. The dash panel and passenger compartment have been moved four in. forward so that passengers are cradled between the front and rear axles. Seats are wider and more comfortable with coil spring construction and foam rubber cushion lining. Seat movement is hydraulically con-

trolled on the Lincoln convertible and all Cosmopolitan models.

A one-piece, curved glass windshield is used on the Cosmopolitan, while the Lincoln windshield is of the two-panel V-type. Both are nearly six in. wider than the windshields on any previous model. Windows in all Lincoln Cosmopolitan models are

operated by hydraulic push-button mechanism. A master control for all windows is located on the driver's door, and an individual control at each window is provided for passengers. Similar equipment is optional on the Lincoln.

Curved instrument panels are designed for maximum safety and visibility. There are no sharp projections. All instruments are located directly in front of the driver for easy reference. They are lighted at night by "blacklight" type of illumination.

A three-way, fresh air heater of the pressurized type is thermostatically controlled. Fresh air is scooped up under the grille and carried to the heating unit inside the car. The combined effect of the motor-driven blower and forward speed of the car pushes fresh air into the car. In addition, heating in both front and rear compartments is obtained under all conditions. The heater may be operated as a fresh air ventilator during warm weather or, if desired, as a recirculating heater in cold weather.

Coil springs are provided in front, and longitudinal semi-elliptic permanently-lubricated springs are used at the rear. Spring action is controlled by four direct-action shock absorbers. Both the Lincoln and the Lincoln Cosmopolitan feature the new type super-balloon, low-pressure tires mounted on wider rims. Tire size is 8:20-15. Body

(Continued on page 74)



## AN ESSENTIAL TOOL IN SERVICE-REPAIR SHOPS



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For something **REALLY** interesting..  
take a peek at pages 94-95.



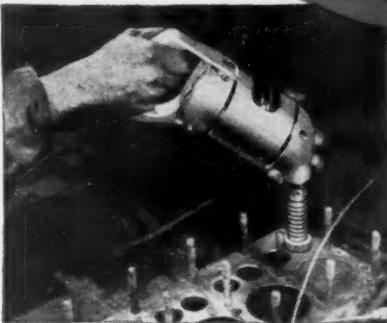
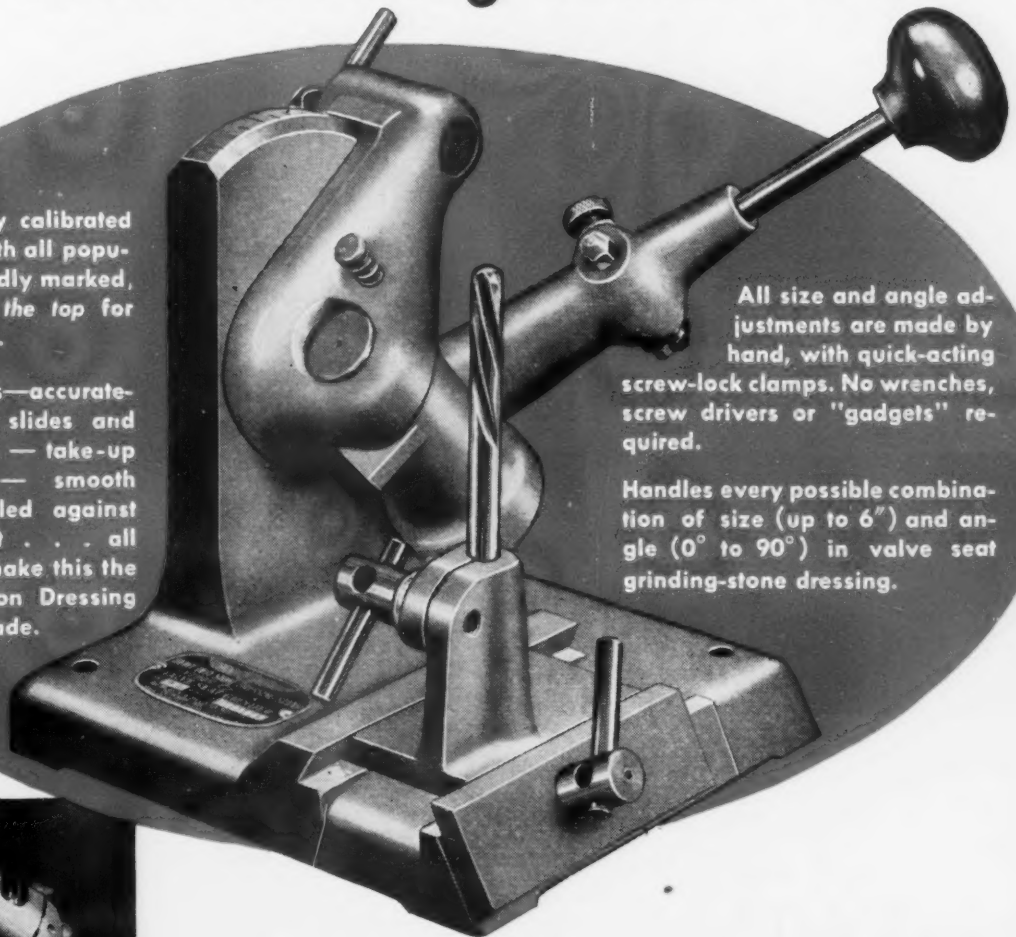
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Completely calibrated segment, with all popular angles boldly marked, is read from the top for easy visibility.

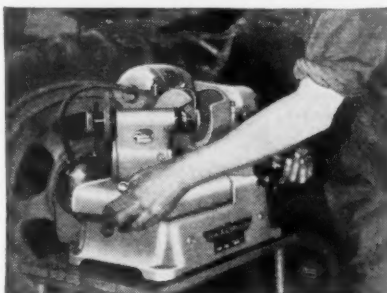
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All size and angle adjustments are made by hand, with quick-acting screw-lock clamps. No wrenches, screw drivers or "gadgets" required.

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PORTABLE ELECTRIC TOOLS

## The New Lincoln . . . . . (Continued from page 72)

models are available in four body styles. These include a four-door six-passenger town sedan; a four-door six-passenger sport sedan; a six-passenger coupe; and a six-passenger convertible.

The new V-8 L-head engine has a displacement of 337 cu in., 3½ in. bore, 4¾ in. stroke, and develops 152 hp. Compression

ratio is 7 to 1, and maximum torque is 265 lb-ft.

The new engine features a heavy forged crankshaft with integral counterweights, and triple-layer copper-lead alloy bearings with steel backings. It is equipped with a dual-concentric downdraft carburetor which has an air-cooled fuel chamber.

Separate exhaust systems for each bank of cylinders are located outside the engine V. This permits a better arrangement of accessories on top of the engine, and promotes access to valves, distributor and fuel pump.

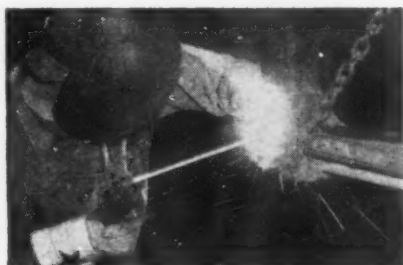
Cooling has been greatly improved on the new engine. Passage of water through the cylinder blocks has been routed so that all water flows the full length of the blocks from front to rear, returning through the heads to the radiator. Other new features include zero-lash hydraulic valve lifters, and one-piece valve guides for better valve cooling. These are pressed into the block for better heat conductivity. Engine vibration has been reduced by a new viscous-type permanently-sealed vibration damper operating in a silicone fluid.

The possibility of piston slap on cold starts has been reduced by embedding steel struts in the aluminum pistons. These limit piston expansion under various temperature conditions, permitting closer tolerances between piston and cylinder walls. All pistons are equipped with four rings for better oil control.

A vacuum booster for uniform windshield wiper operation is standard equipment, and an improved high-capacity generator has been incorporated in all Lin-

(Continued on page 78)

## World's Easiest Arc Welding with Lowest-Priced Welder



ODD JOBS ARE INCOME BOOSTERS . . . like weld repairing the tail gate of this truck with one pass of "Flectweld 47."



REPAIR CHIPPED GEAR TEETH. The tooth of this ring gear is built-up and ground to shape. A 20-minute job.

### "Lincwelder" 180 AC

Handles all kinds of repair work

**Easier Arc Striking.** "Arc Booster" gives an extra burst of current the instant the electrode touches the work. Makes arc striking as simple as lighting a match.

**Broad Welding Range.** 20 to 180 amps. Exact welding current selected with "dial tuning" control. No plugs to shift.

**Safe to Operate.** Low open-circuit voltage—52 volts maximum. Eliminates hazards of high voltage and high frequency used on some welders so that an arc can be struck. Ideal for use on rural power lines because of low current input.

**Low Cost.** Has the same high-quality features found in Lincoln industrial welders—yet sells at lowest price of any welder of this capacity.

**See it and try it** at your local Weldealer. Write for Bulletin 370. The Lincoln Electric Company, Dept. 322, Cleveland 1, Ohio.

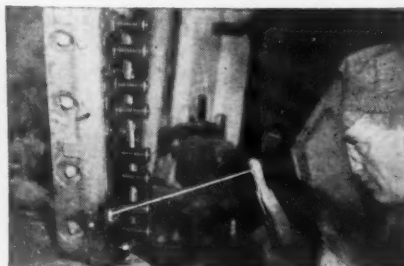


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RESTORE WORN SHAFTS . . . like this spline shaft built up with "Flectweld 47" and machined to size.



SALVAGE CYLINDER HEADS. 20 minutes' work with "Ferroweld" or "Softweld" electrode seals a hole in this water jacket.



"Did a man get on here dragging a woman by the hair?"



## It's New... MOPAR Jiffy Jet Windshield Washer

For Quick Sales... Extra Earnings... Customer Goodwill

It's a cinch to sell... a cinch to install... and a dependable performer that's a cinch to please your customers! It's MOPAR Jiffy Jet—the *new type* windshield washer.

### Works in a wink at press of a toe



No fumbling—no groping! Just press *new type* control button on floorboard. Twin streams spray windshield. Wipers whisk away road film!

### Positive action all the time

New high-pressure operation keeps nozzle openings clear. Uniform spray stays strong and full, de-



spite acceleration or hill climbing. Jiffy Jet works independently of car or truck vacuum system.

### Perfect aim at any speed

Because of nozzle location, direction, and pressure, sprays land *on* windshield, regardless of wind at fast driving speeds.

### Big, easy-to-fill reservoir

Two-quart storage jar under hood can be refilled from any water hose. A little MOPAR Year-'Round Washing Solvent improves cleaning.



### Easy to install

Any mechanic can install Jiffy Jet quickly and easily on all Chrysler Corporation-built vehicles with

V-type windshields. Cash in on the demand for this fast-selling aid to safe driving.

*Here's where you'll find MOPAR Jiffy Jet.*



You can get this business-builder from Plymouth, Dodge, De Soto, and Chrysler dealers. Stock it now for extra earnings.

**CHRYSLER CORPORATION**  
PARTS DIVISION  
DETROIT 31, MICHIGAN

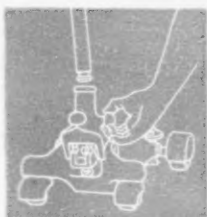
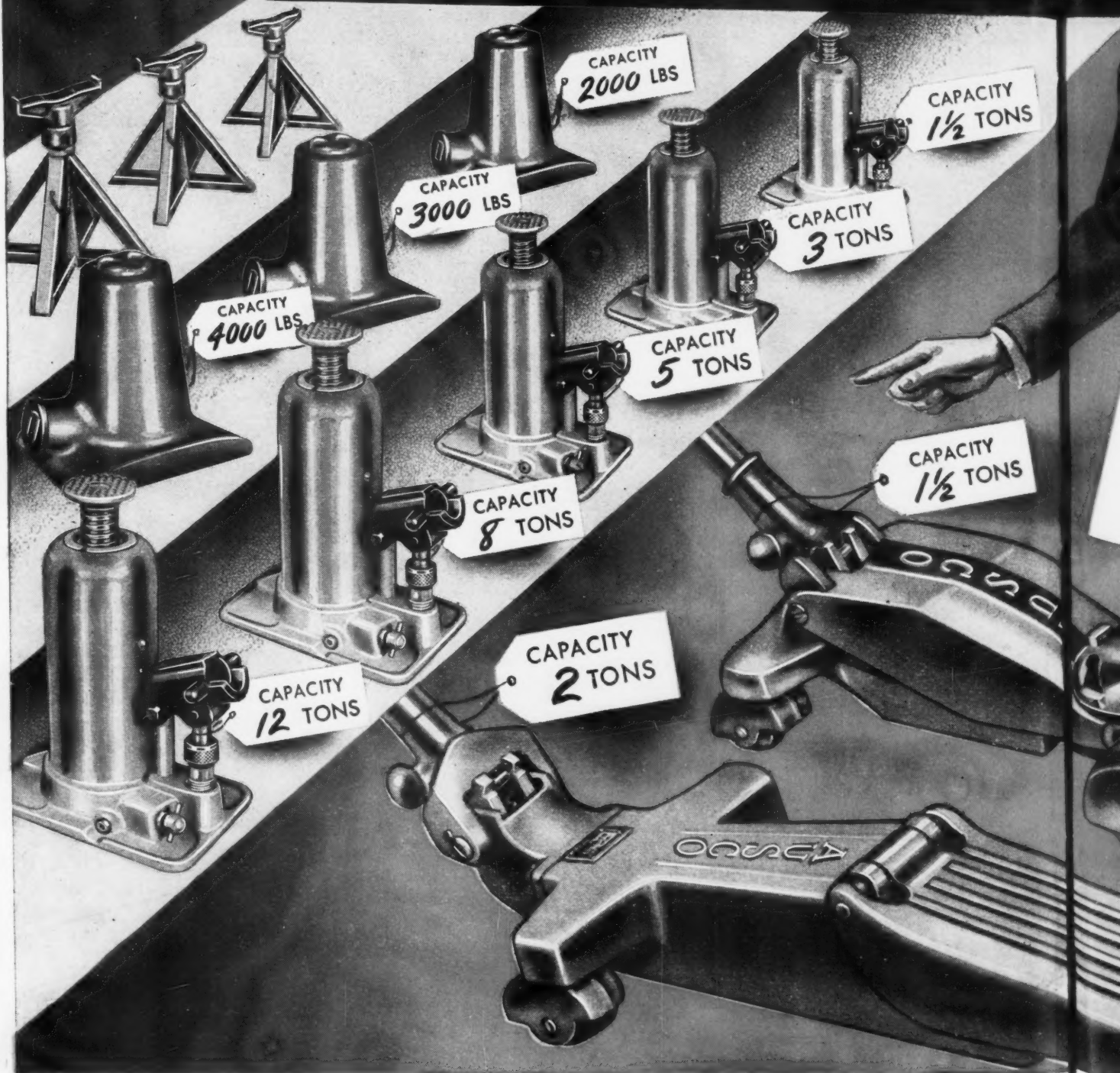


**MOPAR**  
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**WINDSHIELD WASHER**

Approved by Chrysler Corporation Engineers for  
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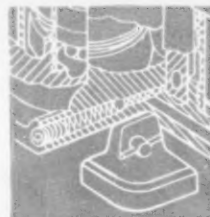
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**EXCLUSIVE SAFETY FEATURE** on hydraulic floor and curb models is AUSCO's removable handle. It eliminates the floor hazard of stumbling over it and, when removed, it also acts as an extra safety-catch.



**EASY-TO-REMOVE POWER UNIT** is to be found on AUSCO Hydraulic Floor Jacks. It is designed for ease of assembling and quick dismantling to service. Just remove four bolts and the entire unit will slide out.



**"IN-LINE" VALVE ACTION** on hydraulic axle jacks gives smooth, dependable lifting power with no lost motion or effort. Valves are easily accessible so jack need not be dismantled for cleaning.

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## CORRECT JACK FOR YOUR SPECIFIC JOB!

... Yes, you can be selective when you choose from AUSCO'S complete line of hydraulic and mechanical jacks! There's an AUSCO JACK for every automotive service purpose ... and each one is completely guaranteed.

It's easy to find the correct AUSCO JACK for your specific requirements. Choose from a wide range of the latest jack models ... capacities from 1½ to 12 tons. And every AUSCO JACK is priced to help you *keep down* maintenance and equipment costs!

Don't let your service operations be hampered because of inefficiency or shortage of jacks! **Contact your helpful AUSCO Jobber NOW!** Ask him to show you the AUSCO JACK which will best meet your all-around requirements — *you'll be glad you did!*

**AUTO SPECIALTIES MANUFACTURING COMPANY • St. Joseph, Mich.**



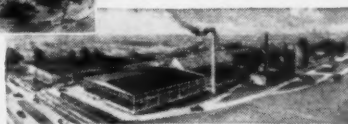
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# AUSCO *Jacks*

All Fully Covered by PATENTS!

## The New Lincoln . . . . . (Continued from page 74)

coln and Lincoln Cosmopolitan production models.

The new V-8 engine is cradled in a K-type frame of welded and riveted construction, consisting of deep channel side members, four cross braces and a heavy channel X member. A reinforced frame is used on convertible models.

Front coil springs, insulated with rubber, are mounted in wishbone-shaped pressed steel arms. A controlled ride is secured through the application of direct action, telescopic shock absorbers mounted inside the coils. This installation provides protection for the shock absorber and simplifies servicing. The

shock absorbers may be removed without jacking up the wheel or interfering with wheel alignment. A simplified front roll stabilator is provided. This connects directly to the spindle support and has no links to wear or rattle.

The new models incorporate improved steering geometry, and Hotchkiss drive with auxiliary bumper and hypoid gears. This latter feature has enabled Lincoln engineers to lower the car appreciably without sacrificing passenger comfort.

Brakes are of the duo-servo type and are self-energizing. The rear axle also is new. A semi-floating type replaces the three-quarter floating type axle. The rear wheels are now bolted directly to the flanged axle shaft ends. Hubs are eliminated, simplifying tire removal despite lower fender skirts. The wheels now drop almost vertically instead of out and then down.

All Lincoln models have synchronized transmission with three speeds forward and one reverse. Quiet operation in low, intermediate, high and reverse gears is obtained through use of helical gears. Automatic overdrive with 0.72 to 1 ratio is available at extra cost as factory installed equipment.



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SINGLE STAGE ¼ HP. TO 10 HP.  
TWO STAGE 1½ HP. TO 10 HP.



"Well, you might have defrosted that pie before you threw it!"





## Exide Dealers know WHY— and are profiting from their knowledge

This new, exclusively Exide, Training Manual provides the Exide Dealer with a simple, practical, step-by-step procedure for operating a battery business successfully and profitably.

Exide Authorized Dealers are receiving this Manual by mail. If you are not an Exide Dealer, the local Exide Wholesaler will tell you how to obtain a copy.

**MORE THAN EVER BEFORE IT'S GOOD TO BE AN EXIDE DEALER**

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

APRIL, 1948

*When writing to advertisers please mention Motor Age*

## The New Mercury . . . . . (Continued from page 35)

pendent coil springs with airplane type direct action shock absorbers installed inside the spring. Rear suspension consists of two longitudinal semi-elliptic leaf springs with full length liners between leaves and rubber bushed shackles to eliminate need for lubrication during life of the car. The body is sus-

pending on tension shackles instead of compression shackles, which together with inverted-V mounted shocks at the rear eliminates the conventional stabilizer bar. The new X-type riveted and welded frame has special K-members for added strength and rigidity. Front wheel alignment has been greatly simplified by

providing adjustments for both camber and caster.

Another radical chassis departure for Mercury is adoption of Hotchkiss drive of the torque tube and wishbone drive used for so many years by Ford. Lincoln-Mercury engineers say that the new drive not only provides a much softer drive, but effects a considerable reduction in unsprung weight giving improved riding comfort and practically eliminating clutch chatter. Another important chassis change is abandonment of the bevel gear in favor of the hypoid rear axle. This change permits use of a lower car floor without increasing the size of the drive shaft tunnel. Also interesting in the new Mercury is the design of the rear wheel attachment. The hub is eliminated and the wheel is attached directly to the flanged axle end, permitting the wheel to be removed by dropping it almost straight down instead of outward and then down.

While the new V-8 power plant in the 1949 Mercury is more powerful than in previous models, it is not as radically changed as the chassis. It is designed for exclusive use in the Mercury and develops 110 hp. at 3600 rpm., compared with the former engine which developed 100 hp. at 3800. Bore is the same, 3 3/16 in., but the stroke

(Continued on page 34)



**CENTRAL MIKE SAYS:**

*Measure All Motor Parts*

**FROM WRIST PINS TO PISTONS**

**← WITH THIS MICROMETER SET!**

Set No. 745RL belongs in the tool kit of every motor mechanic. Its four micrometers, with a combined range from 0 to 4 inches by thousandths, will measure almost any automotive part. When dimensions *must* be right, mechanics can rely on the Certified Accuracy of Central Micrometers.

Also a "must" for motor mechanics is Set No. 808 (Inside Micrometer) for inside measurements 1 1/2 to 8 inches by thousandths.

**CENTRAL**  
*Certified Accuracy*  
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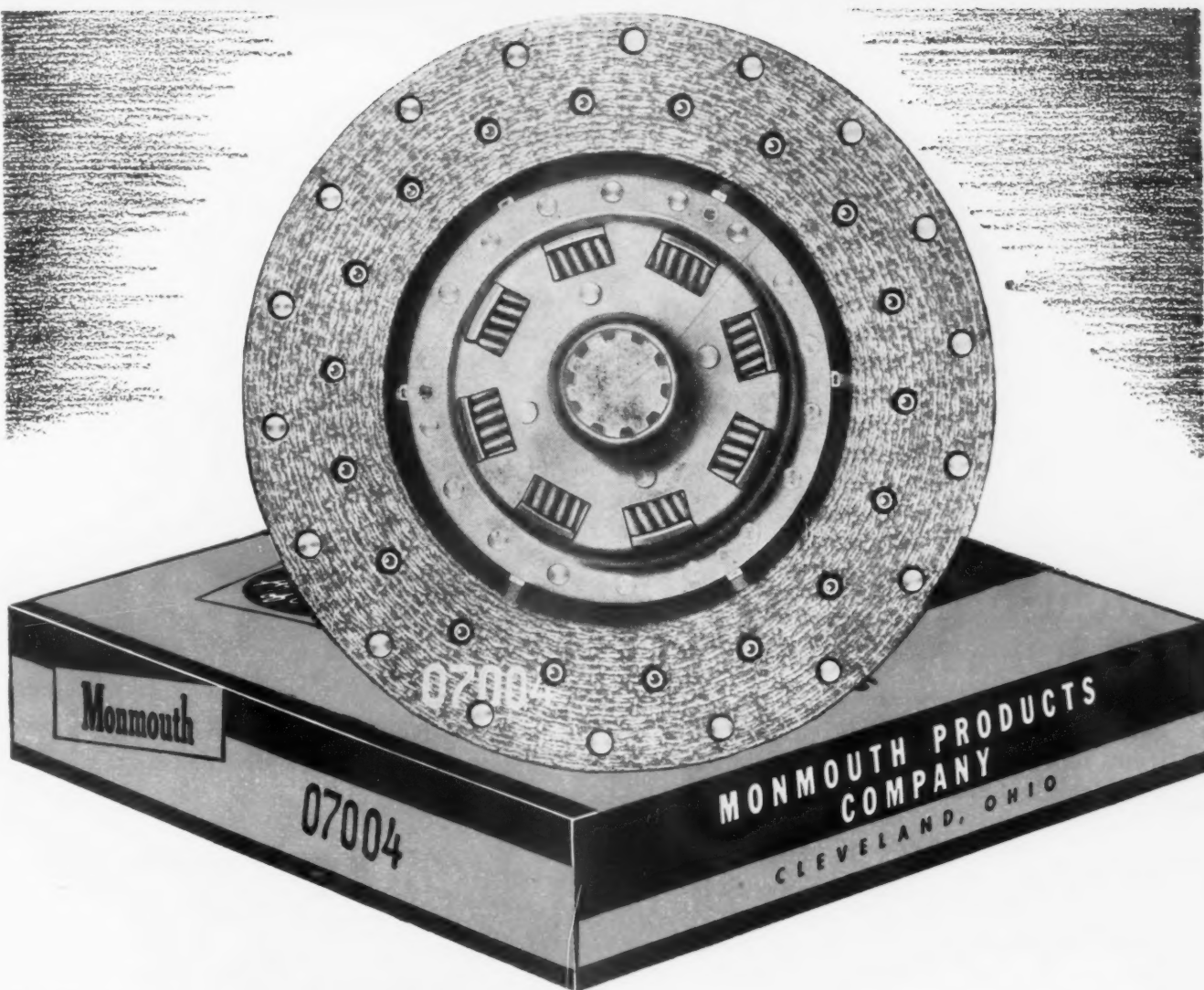
There's a Central Micrometer for every requirement. See your jobber or write for catalog.

**THE CENTRAL TOOL COMPANY**  
462 WELLINGTON AVE., CRANSTON 10, R. I.

**Largest Selling Micrometers in the Automotive Field, throughout the World.**



"Jeffrey, I've met someone else."



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*Monmouth*



*Your NAPA Jobber is a Good Man to Know!*

The Monmouth Flexible Center Clutch Plate is the heart of the power transmission system in any automotive vehicle.

In four respects it is the most efficient device ever created for this purpose—first in absorbing shock—second in dampening vibration—third in power transmission—fourth in length of service life.

Its patented features are exclusive and cannot be duplicated. Construction is tops with forged steel hub, finest spring steel segments and springs. Facings supplied according to original equipment specifications. Individual inspection of each plate before packing includes test for run out. For clutch replacement jobs that satisfy, specify Monmouth Clutch Plates and Parts from your nearest NAPA Jobber.

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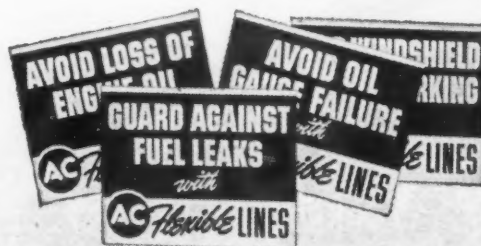
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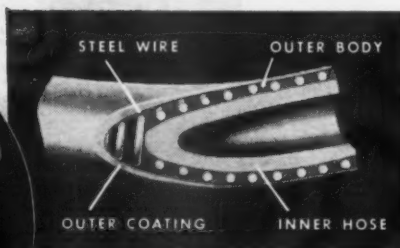
### 2 90% MARKET COVERAGE

35 "Tailor-Made" Lines, packaged by type, 5 to a box. Select from these 35 types, the ones which give you full coverage of your particular trade. Your AC Wholesaler's Salesman can recommend the assortment you need, by make and year of vehicle. (All lines are permanently identified by a tough plastic collar.)



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### FINEST QUALITY AVAILABLE TODAY

Built to AC and S.A.E. standards. Unaffected by aromatic and alcohol blended fuels, oil, water, heat, cold, vibration, kinking, or twisting.

# Flexible LINES

**NOW IN STOCK**

Ask your AC Wholesaler's Salesman to order your free window advertising. Be ready when the Saturday Evening Post advertising starts.

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

## The New Mercury . . . . . (Continued from page 80)

has been lengthened  $\frac{1}{4}$  in. to 4 in., a 10 per cent increase. Displacement in the new engine has been increased from 239.4 cu. in. to 255. The compression ratio has been stepped up to 6.8 from 6.75. The cooling system has been re-designed to direct the flow of water from the rear of the block to the front, and larger

water pumps with ball bearings have been added. A reduction of 12 degrees in cylinder head hot spot temperatures are claimed for these improvements.

For the first time, Mercury will have an automatic choke in place of the manual device. Another improvement in the fuel system is adoption of the right angle

type concentric carburetor float bowl suspended in the air stream between the air cleaner and carburetor, which keeps it cool and prevents vapor lock. Intake manifold branches also have been repositioned so that they are horizontal after the engine is tilted five degrees in its bed. This is said to improve distribution of fuel and arrest the flow of raw gasoline to the rear cylinders, particularly during the warmup period.

Principal changes in the electrical system are relocation of the distributor and a new type automatic spark advance. The distributor now is mounted atop the engine in vertical position for more convenient servicing. It has only one breaker arm instead of the two formerly used. The new automatic spark advance consists of a diaphragm connected to the air passage in the downdraft carburetor. It is simpler and more trouble-free than the complex centrifugally operated type governor, company engineers say. The high voltage coil also is a higher capacity unit with greater heat conductivity.

Three internal engine improvements are aimed at better oil control. One-piece valve guides are used in the new Mercury engine instead of the split type two-piece guide pre-

(Continued on page 87)

### Fitzgerald made Gaskets when..



ON July 28, 1908 the American car "Thomas Flyer" was pronounced the winner of the New York to Paris auto race (via Alaska and Siberia), which started in New York on February 12th of the same year. Then, as now, gaskets of all types were essential to the automotive industry.

SINCE 1906 Fitzgerald has made gaskets of the highest quality. Contact your Fitzgerald jobber.

THE FITZGERALD MFG. CO., TORRINGTON, CONN.

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"Got any that writes 35 years without refilling?"



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"SAFETY-FILL" BATTERIES

**Sell Quicker, Easier  
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**WILLARD STORAGE BATTERY COMPANY**

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*Another Willard First!*

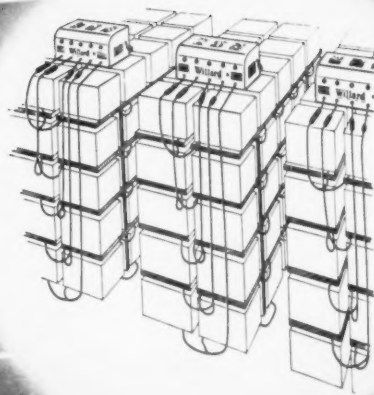
## **The New Willard STOCK PRESERVER**



With this new Willard development, large stocks of storage batteries can be kept **FACTORY FRESH** for **INDEFINITE** periods—safely . . . economically . . . **AUTOMATICALLY**. No more periodic testing, recharging, handling and rehandling of battery inventories! No more self-discharge and partial sulphation in stock! The Willard Stock Preserver reduces the maintenance of storage battery stocks from a specialized, major operation to a simplified minor routine.

Five series circuits of 10 batteries each. Flexible charging rate for each circuit. Visible charging indicators. Heavy duty, double wound, fully insulated transformer. Five dry disc rectifiers. Polarized DC and inter-battery leads. Low operating cost.

Stacked as illustrated to the right. 50 Group 1 batteries occupy less than 8 square feet of floor space. Each of the five 10-battery circuits may be charged at a different rate. Batteries may be preserved and stored in cartons.



**WILLARD STORAGE BATTERY COMPANY**

Cleveland • Los Angeles • Dallas • Memphis • Portland • Toronto

viously employed. They are credited not only with reducing possibility of oil and air leakage, but also are simpler and less costly. Aluminum pistons with a steel strut cast into the skirt are said to improve oil control, eliminate cold-slap, and permit hot engine clearance fitting at the factory. The third major engine improvement is adoption of individual locked-in connecting rod bearings, a departure from the previous floating type. They are claimed to be simpler and to give improved oil control. To reduce chances of oil leakage, additional bolts are provided at the rear bearing seal. Three new engine mounts of rubber bonded to steel are lighter and more resilient than the previous type and are designed to give improved insulation and quieter operation. They also eliminate any tendency to clutch chatter.

Brakes on the new Mercury are duo servo hydraulic type which are self energizing and more powerful and easier working than the former type. Front linings are .28 in. wider and .012 in. thicker than formerly used, and rear linings are .03 wider than on the 1948 model and the same thickness as the front linings.

As is evident from the accompanying illustrations, the new Mercury embodies advanced styling characterized by broad sweeping lines, low roofline, and fenders blended into the body.

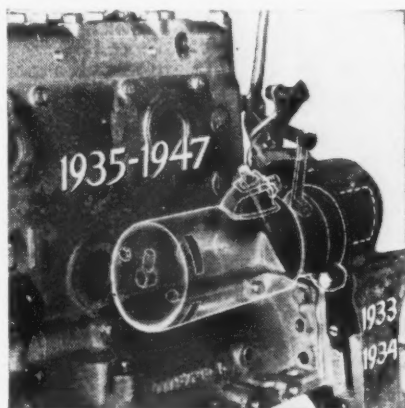


How to pick up a little SUGAR... turn to pages 94-95.

Windshield and side and rear window area is greater for better all around vision. Interior appointments, including a completely new instrument panel with instruments grouped before the driver, are in keeping with the new styling. Door handles are the pull-out type, which do not require turning to

open the door.

A new fresh air ventilating system is provided on the Mercury for 1949. Air is brought in through scoops behind the radiator grille and carried through ducts to outlets in the bulkhead under the instrument panel at each side. The air is forced along the sides of the body and past the seats to the rear compartment, creating a pressurized effect within the



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to that new prospect

Your Starter Problem  
**SOLVED**

## DODGE and PLYMOUTH CARS, 1933-1934

Will Accommodate 1935 to 1947 Engines With  
**THE BRUCE "Special" Flywheel Housing  
STARTER ADAPTER PLATE KIT**

Includes Starter Mounting Plate for old Flywheel Housing, new Starter Linkage, Delco Distributor Shaft Extension, Dust Cover Plate and new Bolts. This makes a First-Class, durable job and you can guarantee it. It is an Engineered product and can be installed on Flywheel Housing by any mechanic in from one to two hours.

Simple, illustrated Instruction Sheet makes the job easy and perfect. Original Delco Starter fits perfect. Autolite Starter also fits. Electric Drill, Hack saw and 7/16" Standard Tap are the only tools needed. Most shops get \$20.00 to \$25.00 for this job.

Dispose of some of those better Used Engines. A Rebuilt or even a New one to those owners of 1933-1934 Dodges or Plymouths. Order one for stock, so you can take care of the job when it comes in.

THOUSANDS OF KITS IN USE

*Satisfaction Guaranteed or Money Refunded*

<input type="checkbox"/> 1 Kit Prepaid	<input type="checkbox"/> Open Account @ \$10.00 or 10% Disc.	For Cash or C.O.D.	<input type="checkbox"/> \$ 9.00
<input type="checkbox"/> 2 Kits Prepaid	<input type="checkbox"/> Open Account @ 9.25 or 10% Disc.	For Cash or C.O.D.	<input type="checkbox"/> 16.65
<input type="checkbox"/> 3 Kits Prepaid	<input type="checkbox"/> Open Account @ 8.50 or 10% Disc.	For Cash or C.O.D.	<input type="checkbox"/> 22.95

*(If you wish Open Account, Please Send References)*

This Starter Adapter Plate will also accommodate 1935 to 1947 Dodge or Plymouth engines in 1933 to 1935 Dodge trucks equipped with 3/8" or 3/4" bore Short Water Jacket Engines, but requires a special template. \$1.00 Prepaid. Parts Distributors and Engine Rebuilders, write for catalogue sheet, quantities of 6 to 100 kits.

**Telegram Code (Starkit)**

**Air Mail \$1.35—Air Express Not Over \$1.20 Per Kit Extra**

### REPEAT ORDERS

Any Number Prepaid  
Open Account **\$8.50**  
Or 10% Discount for Cash  
or C.O.D. **\$7.65**

**A. B. BRUCE AUTOMOTIVE**

Telephone, Valentine 5527

1015 East 33rd Street

KANSAS CITY 3, MISSOURI

**Keep This Ad—You May Need One Tomorrow or Next Year**



## The New Mercury . . . . . (Continued from page 87)

body. A three-way valve provides three choices; direct ventilation, channeling air through the blower and heating coils, or the air may be shut off and the heater made to re-circulate the air already in the car. The ventilating system is standard, but the heater is optional.

Another innovation on the

1949 Mercury is factory installation of overdrive as optional equipment. The unit cuts in automatically when speed is more than 25 miles per hour.

The new Mercury is offered in four body styles; 4-door sport sedan, 6-passenger coupe, 6-passenger convertible coupe, and station wagon.

## FULTON SUNSHIELD



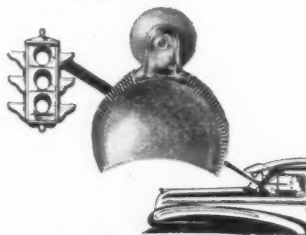
# LEADS THE FIELD...

Fulton Sun Shield leads the field because:

- **IT'S NATIONALLY ADVERTISED** — Saturday Evening Post and Country Gentleman.
  - **IT'S CATCHING** — every sun shield sold is an advertisement for you. People see 'em and want 'em.
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  - **IT'S ALUMINUM** — light, rugged, rust-proof.
  - **IT'S ADJUSTABLE** — one model fits majority of cars.
  - **NOW — A NEW MODEL** — for convertibles, station wagons and trucks.
- Fulton Sun Shields are easy on the eyes — easy to sell!

### NO. 34 FULTON TRAFFIC LIGHT FINDER

A clear plastic prism that mounts on the inside of windshield with rubber vacuum cup. It bends overhead light rays into driver's vision.



Individually boxed, packed 1 dozen in counter display carton. List price \$1.00 each.



## THE FULTON COMPANY

Designers and Manufacturers of Automotive Equipment Since 1911

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## New Wyco Polisher Gives Straight Rubbing Motion

Wyzenbeek & Staff, Inc. of Chicago has introduced a new Wyco polisher which gives a straight rubbing rather than a circular motion. A flannel polishing drum is used for rubbing compound and lamb's wool drum with sponge rubber core for waxing. Scrub brushes, wire brushes, sanding drums or grinding wheels extend the polisher's uses. A full line of accessories is available. Two models are made: a single speed and a three-speed, each powered by a 1/3 h.p. motor.

## Oakite Di-Sanite Cleans Deodorizes at Same Time

Oakite Products, Inc. of New York have announced a new product, Oakite Di-Sanite, a specially compounded chemical material designed to clean and deodorize in a single operation. A fine, free-flowing powder, mildly alkaline, Di-Sanite is readily soluble in hot or cold water. Described as free from abrasives and harmful ingredients it may be applied on surfaces by sponging, wiping or mopping. It is designed for use in shops, wash rooms, locker rooms and for the interiors of public conveyances, trucks and buses.



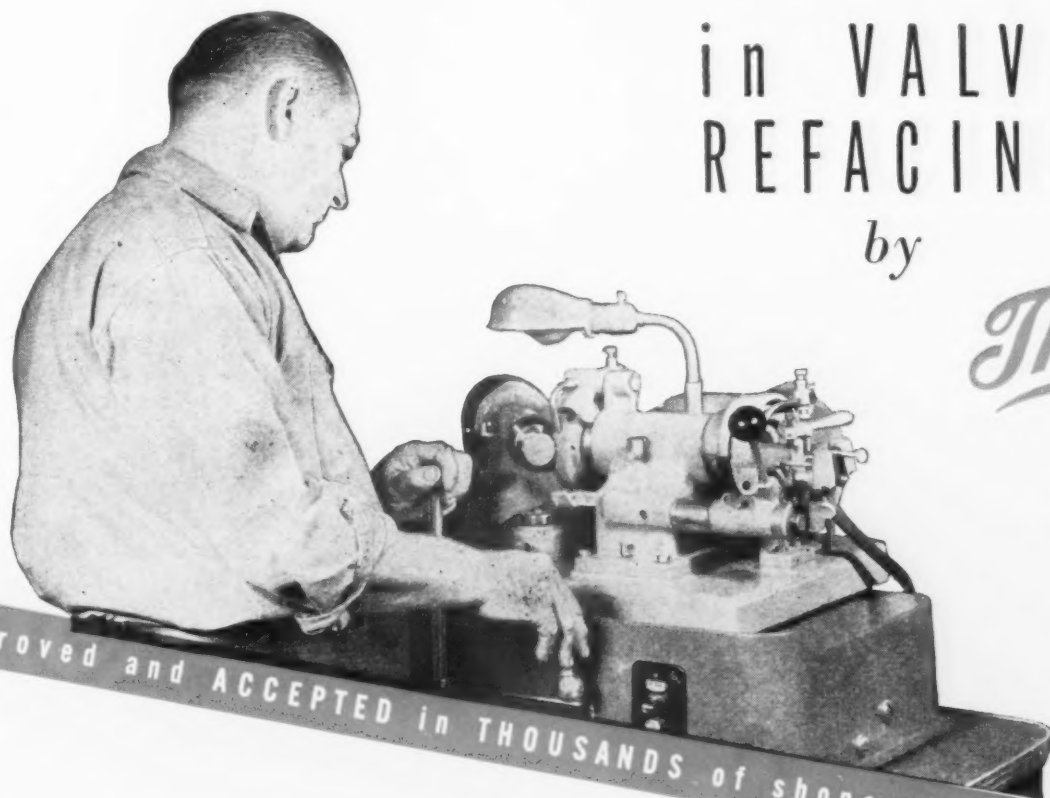
"I don't want anything that will knock him unconscious—just something that will stun him a little!"

# SHOP-PROVED PRECISION

in VALVE  
REFACING

by

*Thor*



Proved and ACCEPTED in THOUSANDS of shops the FIRST YEAR!

Built-in, *permanent*

precision, economy, ease of operation

... these claims for the new Thor Valve Refacer are based today on *performance* ... after over a year of "job-testing" in thousands of installations.

The soundness of Thor's original engineering design, constantly improved, constantly refined, has proved out!

Today your Thor jobber does more than demonstrate a stock model—he takes you to shops in your

vicinity where Thor Refacers are setting new standards of speed and precision in reconditioning automotive valves, tappets and rocker arms.

*See for yourself! Call your Thor jobber today!*

## INDEPENDENT PNEUMATIC TOOL COMPANY

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*Thor*

PORTABLE POWER

**TOOLS**

ONLY THOR JOBBERS SELL TOOLS FOR EVERY SHOP'S EVERY JOB!

*When writing to advertisers please mention Motor Age*

## "How to Run a Lathe" By South Bend Lathe

The South Bend Lathe Works of South Bend, Indiana has made available to the trade its book, "How to Run a Lathe." In the review of this book which appeared in the January issue of Motor Age, there was no mention of the fact that South Bend is making a slight charge for this book, 5 cents for the paper

bound copy and \$1.00 for the leatherette bound copy. Copies of the book can be obtained from the factory.

## Plomb Tool Offers Two New Pullers for Shop Use

The new pullers, one for blind bearings and the other for storage battery terminals, have been developed by the Plomb Tool Com-

pany of Los Angeles. The first one, numbered 4080, was designed for pulling Chevrolet, Ford and Packard pilot bearings although it has a wide range of expansion and therefore has many other uses. The battery terminal puller, numbered 4041, works on any type of battery or terminal.

## Nutmeg "E-Z-Opener" for Compressed Gas Cylinders

Nutmeg Industries of Bridgeport, Connecticut, has introduced the "E-Z-Opener," an inexpensive device for opening compressed gas cylinders. It is a one-piece casting which fits over the standard cylinder valve handle and tightened in place with a knurled set screw. With this opener in place, the main valve of the tank can be turned without using a wrench.

## Wall-Type Tailpipe Rack Permits Display of Units

A new wall-type tailpipe rack designed to save floor space as well as to increase the attractiveness of tailpipe display has been designed by the AP Parts Corporation of Toledo, Ohio. All steel and 45 in. high by 24 in. wide, the rack holds 10 tailpipes in a 2 in. well at its bottom and U shaped recesses in the upper crosspiece. Pipes are put in and taken out in the same way as billiard cues in a cue rack.



"Does your boss know about that sign?"

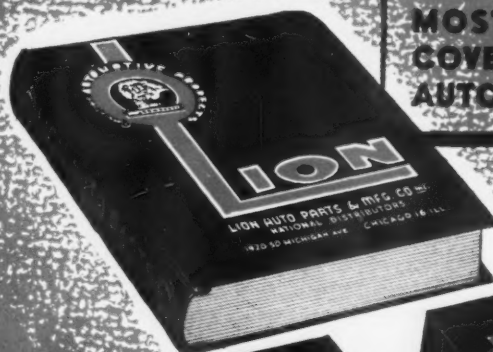
**For Every Automotive Need . . .  
One Dependable Source of Supply**

**LINE UP WITH LION**

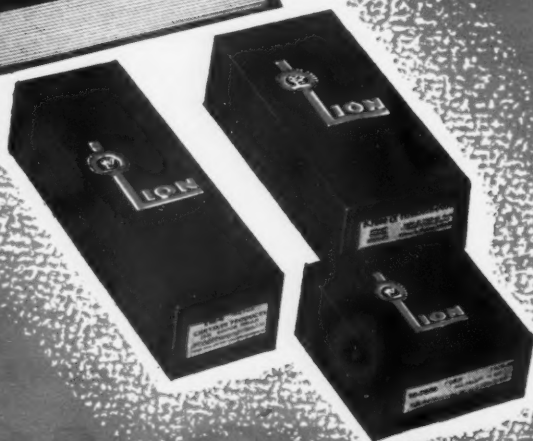


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1920 SOUTH MICHIGAN AVE. CHICAGO 16, ILLINOIS



**"Good Tools are essential to good service.  
Our mechanics prefer**

# **Snap-on Tools**

**because Snap-on builds the  
right tool for every job"**

**... says Joseph J. Fitzhenry,  
Service Superintendent, Chambers Motor Co.,  
Dodge-Plymouth Dealers, St. Louis**



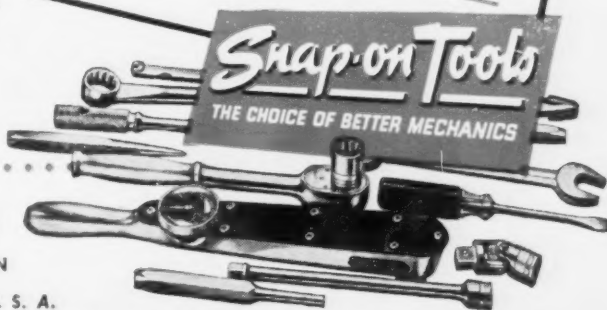
In top shops from coast to coast, you'll find service managers just about unanimous in their liking for Snap-on tools . . . and in their endorsement of *Snap-on direct-to-user service* • Expert mechanics themselves, they know from *experience* what a complete kit of Snap-ons can contribute to speed — good workmanship — bigger pay envelopes • They know that every call of a Snap-on field man helps keep tool kits up to par, and cuts wasteful "tool chasing time" for their mechanics • Snap-on direct-to-user tool service is available everywhere through 40 factory branches, 700 trained field representatives. It's "the time-saving way to buy time-saving tools."

**For 28 years, Snap-on's  
Direct-to-User Tool Service  
has proved to be  
"The Time-Saving Way To  
Buy Time-Saving Tools"**

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8036-D 28TH AVENUE • KENOSHA, WISCONSIN

International Division: Kenosha, Wisconsin, U. S. A.



## Engine Tune-up . . . . . (Continued from page 37)

in ounces. Hook the scale as close to the point as possible, then place a thin slip of paper between the points, putting slight tension on it with your fingers. Then pull gently on the scale until the paper slips out. Tension should be from 17 to 20 ounces.

Go over the fuel system, be-

ginning with the gas line. Disconnect the gas line at the fuel pump and blow it clear back toward the tank. Then clean and reoil the air cleaner, fuel pump filter and bowl. On a minor tune-up, carburetor adjustment is usually limited to setting the idle mixture and setting the throttle top screw to a speed of

about 7 miles per hour.

Some shops check ignition timing as part of a minor tune-up. This is well worth while and can be done easily enough, using a timing light.

A major tune-up, of course, includes all the operations of a minor tune-up, with the addition of several other processes.

The first step in a major tune-up should be a vacuum test. If properly done, this is a good indication of the condition of the engine and will reveal improper carburetor adjustment, incorrect valve timing, poor valves, guides or springs, leaking gaskets or bad piston ring seal. A steady reading of 18 to 21 inches of vacuum, indicates normal idling speed performance at ordinary altitudes.

A compression test is equally important, and should be made while cranking the engine with all plugs removed and the throttle fully open. If the reading is reasonably high and uniform, varying not more than 5-10 pounds between cylinders, compression may be considered normal. If any abnormality is indicated, such as low compression in two adjoining cylinders, a closer inspection of gaskets, valves, rings, and so forth is in order. Head and manifolds should be tightened down with a torque wrench.

The valves should be adjusted

(Continued on page 97)



DRILLING



SCREW DRIVING



RIGHT ANGLE  
NUT SETTING



HIGH SPEED  
GRINDING



SANDING

### USE A JOB-FITTED TOOL

In everyday jobs like these, and others in automotive shop service ... use the *right* tool for each type of work! Always use ARO ... big power ... light weight ... small size. Also available in compact ARO Kit with 7 complete tools. Ask your Aro Jobber. The Aro Equipment Corporation, Bryan, O.

# ARO AIR TOOLS



"Ah, good day, miss! You're inhibited perhaps?"

# THERE ARE PROFITS FOR YOU NOW IN LIGHTWEIGHT MOTORCYCLES



## Look Into These JAWA Profit-Making Opportunities

- ✓ The JAWA "250" is a profitable, fast seller in a booming motorcycle market.
- ✓ Liberal dealer discount means substantial profit on every JAWA "250" sold.
- ✓ Liberal Franchise Terms. The JAWA Franchise provides full opportunity to develop every prospect in your area.
- ✓ Immediate delivery assures prompt filling of every customer order.
- ✓ Additional profits on sale of replacement parts. Parts available immediately.
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- ✓ Full dealer cooperation; mats, display material, prospect inquiries, national advertising.

## THE BIG MOTORCYCLE BUYING SEASON IS JUST AHEAD.

If you are interested in cashing in on a JAWA Dealer Franchise in your community, write us today. Complete information on the JAWA "250" and your profit-making possibilities as an authorized JAWA Dealer will follow by return mail.

**CASH-IN ON THIS OPPORTUNITY TO BECOME THE  
LEADING MOTORCYCLE DEALER IN YOUR COMMUNITY**

**JAWA MOTORCYCLE COMPANY**

Division of Industrial Operations, Inc.

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Never before has a motorcycle been sold and widely publicized as intended for *transportation* as well as for sport and recreation. Never before has there been a motorcycle like JAWA which is so well adapted to sensible, sane *transportation utility*.

JAWA is especially designed for safety and comfort on any road. It has all of the economy and simplicity and ease of handling of a light-weight machine, yet it is heavy enough to give the rider a feeling of security with no jounce, no speed wobble, no road shock.

## NO OTHER MOTORCYCLE GIVES YOU ALL THESE JAWA FEATURES:

1. Dynamic, graceful design. Beautifully streamlined.
2. Smooth riding. "Tele-Float" spring suspension assures safe, comfortable driving on any road.
3. Easy driving. Automatic clutch. Pedal gear shift. Illuminated gear indicator.
4. Safe driving. 6x1" internal expanding brakes, front and rear. Adjustable steering control.
5. Powerful engine. Two-cycle engine develops 9 horsepower. Amazing get-away; capable of high average speeds with amazing fuel economy (94 miles per gallon).
6. Rigid, balanced frame structure.
7. Easy accessibility for servicing.
8. Enclosed engine, transmission and carburetor. Fully protected against dust, mud and water.



*When writing to advertisers please mention Motor Age*



# \$5,100<sup>00</sup> in Cash

*Enter  
the Big*

## LEAK-PROOF

PISTON RING

1<sup>st</sup> PRIZE  
\$1,500<sup>00</sup>

133 CASH  
PRIZES

2<sup>nd</sup> PRIZE  
\$250<sup>00</sup>

3<sup>rd</sup> PRIZE  
\$100<sup>00</sup>



PLUS 130  
ADDITIONAL  
\$25<sup>00</sup> PRIZES



McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS, MO.

# Given Away! Jingle Contest



*Here's All You do to Enter*  
**IT'S FUN!.. IT'S EASY!.. IT PAYS OFF!**

Finish the jingle in the coupon. That's all there is to it. You furnish the words and we furnish the prizes... 133 big folding money prizes. The wife and kiddies can enter too, because this is a family affair. So start now, send in as many entries as you wish, the more you send the better your chances to win. Get all the extra entry blanks you need from your McQuay-Norris Wholesaler...

## OFFICIAL CONTEST RULES

1. Complete last line of jingle to rhyme with new. Mail entry with box top from set of LEAK-PROOF Piston Rings, or reasonable facsimile, to the Lloyd Herrold Company, 333 West Lake Street, Chicago 6, Illinois. Enter as often as you wish, using either official entry blank which you can get from your jobber, or plain paper. Be sure to send in LEAK-PROOF box top, or reasonable facsimile, with each entry.
2. Contest is open until midnight June 30, 1948. Entry to win any of prizes must be post-marked before midnight June 30, 1948 and received by July 10th.
3. Entries will be judged by Prof. Lloyd D. Herrold of Northwestern University. Decisions will be final. Duplicate prizes in case of ties. You accept these conditions when you send in entry. Entries, contents and ideas therein become property of the McQuay-Norris Mfg. Co.
4. Winners will be notified by mail. To secure winning list enclose self-addressed stamped envelope.
5. Contest is open only to repair shop operators—mechanics and their families.

## ENTRY BLANK... TEAR OUT *Today!*

SIMPLY ADD LAST LINE TO THIS JINGLE  
AND MAIL IN ACCORDING TO THE RULES,  
WITH TOP FROM LEAK-PROOF BOX.

*LEAK-PROOF are the rings for me  
They make the job like new  
And customers will all agree*

NAME.....

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JOBBER'S NAME.....

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SHOW IT...  
SELL IT...

PROFIT!

# Saginaw

RECIRCULATING-BALL  
**BUMPER JACK**

## ENTIRELY NEW PRINCIPLE!

Rolling balls, inserted between the threads, reduce friction and increase efficiency. The balls recirculate through a special raceway, as shown.



Why can this revolutionary new jack steal your market?

Why? Because *this* is no ordinary jack! The Saginaw Bumper Jack makes use of the same recirculating-ball principle proved on military aircraft to actuate wing flaps, bomb-bay doors and landing gears . . . *proved to do more work with less effort!*

Built by the maker of steering gears for America's leading cars, this jack requires no more effort than steering a car . . . another reason why the Saginaw Recirculating-Ball Bumper Jack is so *easy to sell*.

Start cashing-in on the big market waiting for such an easy-to-use and dependable jack . . . see your United Motors distributor *today*.

## THE SAFEST — EASIEST — STURDIEST BUMPER JACK EVER DEVELOPED!

For extra profits, just show it to every customer



Saginaw Recirculating-Ball Bumper Jacks are available through United Motors distributors. Call yours today!

## A CHILD CAN USE THIS JACK!

Only six pounds' turning effort jacks up a car — with ease and perfect safety! Solid . . . sturdy . . . and trouble-free!

Rust-proofed! Dirt-protected!  
No danger of age-deterioration!

No fluid to leak —  
nothing to get out of order!

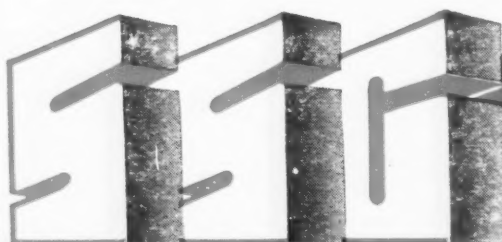
Handle can't spin while  
car is being lowered!

Sturdy bracket  
—firm-fitting!

Pressed-steel frame  
—solid—rugged!

Compact, precision product!  
Dependable . . . long lasting  
. . . and trouble-free!

Wide-area base  
assures firm solidity



**Saginaw**  
STEERING GEAR DIVISION  
General Motors Corporation, Saginaw, Michigan

**PRODUCTS**

STEERING GEAR ASSEMBLIES • STEERING LINKAGE ASSEMBLIES  
PROPELLER SHAFTS • DIESEL ENGINE AND AIRCRAFT PARTS



## Engine Tune-up

(Continued from page 92)

to the manufacturer's specifications as part of a major tune-up.

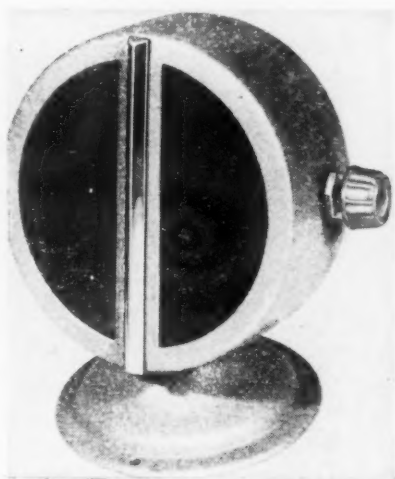
In a major tune-up, the carburetor should be removed and given a thorough going-over. In addition to the minor adjustments, the float level should be checked and the entire unit cleaned. A choke adjustment may be necessary, and a pressure test of the fuel pump is worth while.

Check fan belt tension and the condition of the belt and hoses, making replacements if necessary. This is a good time to check the thermostat, with summer heat on its way.

Finally, make an inspection for factors that may cut down performance, such as dragging brakes, slipping clutch, or crimped tail pipe, and road test the car.

## Equi-Sonic Speaker Easy To Install in All Cars

The Equi-Sonic Corporation of Detroit is now manufacturing the Equi-Sonic Rear Seat Speaker which fits all makes of cars.



Designed for installation on the rear seat package deck, there are no holes to cut and no soldered connections. Also, a spring-clip mounting, plus an ample extension cord permits the Speaker to be moved outside of the car.

## Waterbury Crankshaft Grinder Works in Block

Waterbury Tool Division of Vickers, Inc. of Waterbury, Connecticut has announced the introduction of a new type crankshaft grinder that works in the block from the top in most in-line internal combustion engines. This portable grinder consists of two major assemblies, the grinding unit and the crankshaft re-

volving unit. The grinding unit consists of a  $\frac{3}{4}$  h.p., rated 10,000 rpm, electric motor and bracket for top of block mounting, plus a flexible drive shaft for transmitting rotation to the grinding wheel. The grinding wheel shaft simulates the action of a connecting rod and rides against the cylinder wall by means of a bronze contact roller. The crankshaft revolving unit is made up of a motor, reduction gear and belt drive.

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No other Ignition Service Stock Cabinet offers you so much in organizing your buying . . . in providing for orderly stock arrangement and control . . . and in making ignition parts readily available.

The "Card Band" on the edge of each shelf tells you what and when to order . . . tells you where to shelve incoming stock . . . and the large corresponding code numbers on each package speed up parts selection. The Cabinet is divided into 3 separate sections, one for each of the 3 popular ignition systems. One catalog with a single code enables you to identify ignition parts faster for every car and truck.

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**NIEHOFF System MERCHANDISERS**

"Got it all buttoned up?" asked Larry.

Tommy wagged his head dolefully. "I can't even get started," he said. "Those cap screws on the con rods are about the toughest things I ever tackled."

Larry bobbed his head knowingly. "I get it," he said. "You chewed all the corners off the

hex heads. Give me that wrench and I'll get 'em started for you. You gotta know just how to do it."

Ignoring the creeper, Larry got down and slid under the car. Tommy heard the rattle of metal on metal, faint at first and then a little louder. Presently another sound was added, the ear-

scorching sound of Larry's choicest cuss words. Then Tommy saw Larry start to inch himself out into the clear, like an awkward, overgrown snake.

Scrambling to his feet, Larry jammed a knuckle into his mouth and sucked on it. Taking it out, he snapped, "Get me that first-aid kit!"

Tommy's inclination was to laugh, but Larry still held the wrench in his uninjured hand and he had been known, in moments like this, to toss wrenches around without too much care. So Tommy brought the mercurochrome bottle and bandage.

"Did you get the cap screws loosened?" he asked, as he daubed the skinned knuckle.

"You couldn't loosen them things with TNT," growled Larry. "I'll bet they ain't been turned since Stinky took delivery on the crate."

"But what are we going to do? We can't replace the bearings till we get the caps off."

"You'll have to do it the hard way, I guess. Get a cold chisel and a hammer, and just keep tappin' around the edges of the bolt head till you break 'em loose."

Tommy wound the knuckle with bandage and pasted it down with a piece of adhesive. "Now," he said, "if I were a doctor that would cost you two bucks."

"And if I paid it," said Larry,

(Continued on page 102)

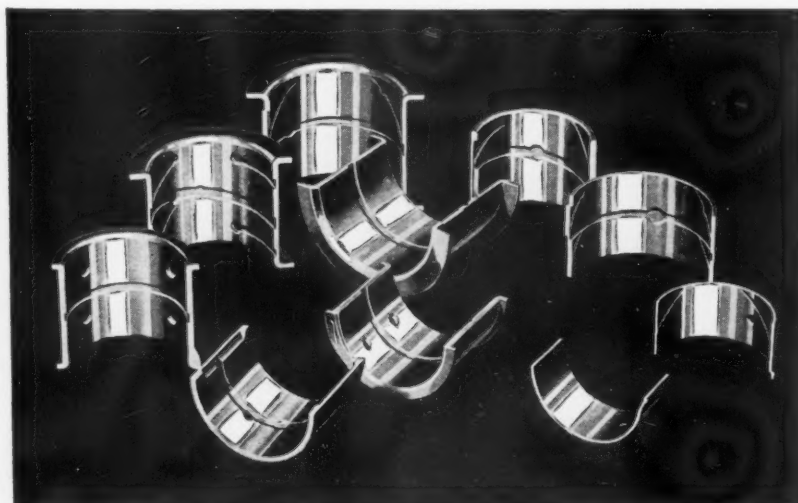
## You can't buy Better Bearings at any price

When you purchase automotive bearings and bushings you buy more than metal and finish. You are making an investment in performance. After all it's the miles of smooth, quiet, economical operation that determines real bearing quality. When you purchase Johnson Automotive bearings and bushings you get the correct size, type . . . and the longest bearing life possible. Try a set on your next job . . . and be convinced. Carried in stock everywhere for immediate delivery.

**JOHNSON BRONZE COMPANY**

455 South Mill Street

New Castle, Pa.



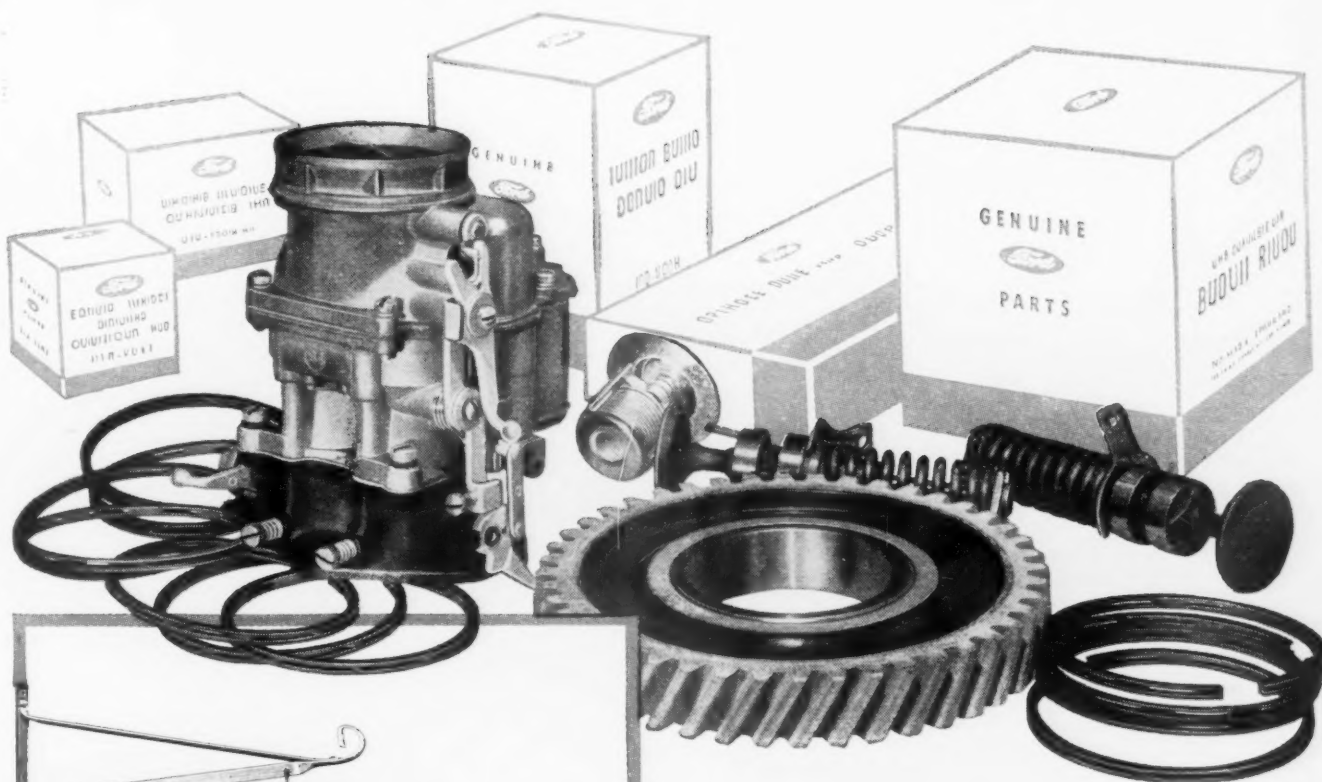
"If those are neutral spirits, I'd hate to meet up with any warlike ones!"

# Genuine FORD Parts **Right For FORDS!**

**Genuine Ford Parts** are made right, fit right, last longer! Made to the same Ford-famed high-precision standards as the originals they replace . . . of extra-quality materials . . . rigidly inspected and tested for long-life service. For example—

**Connecting Rod Bearings**—steel-core thin shell type dissipate heat more readily, have a higher strength factor, stand up longer in rugged service.

**Spindle Bolts**—forged from special steel, heat treated to give extremely hard surface. Finished surface accurate to within half a thousandth of an inch. Each bolt specially tested for hardness.



**Independent Garages**—display this "sign of good business" . . . tell the town you stock Genuine Ford Parts. There's a big nation-wide program under way to build more business for you!

**Fan Belt**—actual tests prove genuine Ford fan belts have longer life, greater flexibility. Stretch is held to the extremely close tolerance of .06" between pulleys.

**Water Thermostat**—minimum copper content of 65% guards against corrosion for the life of the engine.

**Water Pump**—impeller made of finest grade cast iron; cadmium plated for longer life. Spring backed seal gives permanently leak-proof operation.

For more Ford service business—and more satisfied Ford owners—always use Genuine Ford Parts. Order from your nearest Ford Dealer or Ford Parts Distributor.

Watch for the Genuine Ford Parts advertising in national magazines, billboards, newspaper comic sections.

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PRESENTING FOR THE FIRST TIME

THE **NEW** RIGIDIZED STAINLESS STEEL

# COMET Skyshield\*

Pat. No. 2,180,909



**\$17<sup>95</sup>**  
LIST

**The most strikingly beautiful exterior  
appointment ever offered the  
automotive after-market!**

THE NEW COMET SKYSHIELD undoubtedly sets a new standard in the visor field. It literally has everything you dealers have looked for. In appearance it is second to none. In convenience for installing, ordering and stocking it has no equal. Everything about it recommends it as a finer piece of merchandise with consistent turnover and good steady profits. Order it now from your Tire or Oil supplier.

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TRADEMARK

# ...AND HERE ARE THE COMET Skyshield

ADVANTAGES WHICH PLACE IT

IN A "SALES" CLASS-BY-ITSELF

**HIGH ENDORSEMENT**—By leading Tire and Oil companies and other major outlets which recognize that the Comet Skyshield eliminates every visor sales-resistant that may have existed heretofore.

**NO PAINTING**—This point is extremely important. Eliminates matching and fading problems and lets you offer the *finished* product without extra charge. Opens the visor field to smaller dealers.

**NO DRILLING**—Hole-drilling always is a big sales-resistant. The Comet Skyshield is held by patented clamp-on brackets. Thus, you need no special equipment and installation is quick and simple.

**ONE MODEL**—No need to elaborate on this grand advantage. You can fit nearly every car on the market. When you order Comet Skyshields you simply state the number you want—not the sizes.

**PRICED RIGHT AND FAIR TRADED**—Costs considerably less than most other visors with none of the Skyshield's advantages. Being Fair Traded keeps your profit structure consistent, stable and attractive.

The Comet Skyshield is sold under the Aske Sales Policy which distributes exclusively through leading Tire and Oil companies and such other major outlets as meet the merchandising standards set by Aske Products, Inc., 1015 Fisher Bldg., Detroit 2, Michigan.



"there'd be two bucks more on Stinky's bill." He felt the bandaged knuckles gingerly. "Well, what are you standin' there for?" he asked. "Want Pop to come belly-achin' around here again?"

After putting away the first-aid kit, Tommy rummaged through his tool box for a small

cold chisel and a ball-pein hammer. He had just reached the Cadillac when Pop, happening out into the shop, spotted him.

"Hold on there," said Pop. "What do you think you're gonna do to that Caddy with them tools?"

"Just trying to get the cap screws out of the connecting

rods," said Tommy.

"With a cold chisel?"

"Well—"

"Where did you ever pick up that trick?"

"I tried a wrench but all I did was chew the corners off them."

Pop pulled at his ear, then ran his fingers through his white hair. "So then you asked Larry," he said, "and Larry told you to get a chisel?"

"Yes," confessed Tommy.

"I thought so. Some day, I'm gonna open a snafu department and, when I do, the man I'm gonna put in charge of it will be Larry."

"Did you call me?" asked Larry, coming over.

"Yes," said Pop, "but I didn't call you nothin' you'd want me to repeat in public." He tossed his head toward Tommy. "What's the idea of tellin' the kid here to chew at them cap screws with a chisel? Didn't you ever hear about heatin' 'em with a torch?"

Larry twisted his lips in a smile that was supposed to show disdain. "Sure," he said, "but it just happens the only torch we got ain't workin' because a certain guy around here with white hair forgot to get it fixed."

"Hmm," said Pop. He turned to Tommy. "How many of them cap screws did you ruin?"

"Just the first one."

"So you've got all the others still to get out?"

Tommy nodded.

(Continued on page 104)

IT'S TIME TO  
SPRUCE 'EM UP  
for SPRING with SHAMO



**Cuts Car Washing Time in Half!  
Not a Soap—Not an Oil. Dries Spot-  
less, Streakless, Without Wiping!**

SHAMO is truly the "successor to the chamois skin"! This scientific concentrated powder cleanser quickly removes traffic film, loose pigment and scum, revealing all the luster of the original finish! Guaranteed harmless to all finishes. One-half ounce SHAMO to ten quarts of water is a perfect car wash.

**ORDER YOUR SPRING STOCKS NOW!**

SERVO PRODUCTS

**Service Supply Co.**

1115 SEVENTH ST. • DENVER 4, COLO.



"It belongs to the new man the boss just hired!"



**"And don't overlook these  
Three Points for Profits!"**



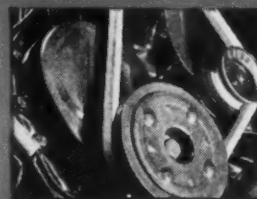
**2 out of every 3 cars on the  
road today have one of these  
signs of fan belt failure!**

**Point 1  
GREASY FAN BELT**  
causes slipping—  
overheating, expen-  
sive repairs.



**Point 2  
FRAYED FAN BELT**  
means belt life is  
over. Failure soon!

**Point 3  
BOTTOM BRIGHT  
PULLEYS**  
belt is riding too  
low—burning up!



Yes, whenever you raise the hood—check these three important points, they mean customer service, and profits for you! And if you're stocked with Dayton Fan Belts, you'll find a new high for service and profits—for Dayton is the simplified line that requires only 12 belt sizes to service 91.8% of your fan belt needs! The Original Equipment Fan Belt—Daytons are original equipment on 85% of all American makes of cars. So get all the facts on Dayton—check these profit points! Call your jobber, or write:

**DAYTON RUBBER • DAYTON, OHIO**

**Dayton  
Rubber**

**MAKERS OF GREAT FAN BELTS  
AND PROFITS FOR JOBBERS**



"Go get me a drift pin," said Pop.

Tommy was back with the drift pin in a matter of seconds.

"This," said Larry, "I just gotta see."

Pop ignored the remark. "Get under there," he said to Tommy, "and smack the rest of them cap screws with that drift."

Tommy hesitated, undecided for the moment whether Pop was in earnest.

"Go on," said Pop. And Tommy crawled under the car with the hammer, pin, and a wrench.

"I've heard some screwball ideas in my lifetime," said Larry, "but this beats 'em all. He's gonna pound them cap screws

so tight it'll take an atom bomb to pry 'em loose."

"You know," said Pop, "you remind me of a certain professor. About the time the Wright brothers was flyin' their first airplane, down at Kitty Hawk, he was cooped up in his study, writin' a book to prove nobody could ever fly a heavier-'n-air machine."

"I don't see the connection," replied Larry.

"Skip it," said Pop. He leaned over a little and called to Tommy. "Any luck?"

Tommy answered by wriggling out into the clear and holding up one of the connecting-rod cap screws. Pop turned to Larry. "Well?"

Larry's eyes bugged out slightly. "Okay," he said. "You done it again. What's the gim-mick?"

"It's very simple," said Pop, taking the cap screw from Tommy. "When you drive the drift pin against the cap screw it stretches the metal a little and it turns right out."

Larry smirked. "I guess that's one of the kinks you picked up while you was still workin' on buggies," he said.

Pop laughed. "That reminds me of the time our mare got the colic," he said, "and we had to hitch up a mule. 'It—'

Larry bristled. "You ain't gonna try to compare me to a jackass," he said.

"No indeed," said Pop. "I never mistook a mule for a horse—not from a buggy seat."

**NOW!**

a single  
assortment  
for 95% of all  
speedometer  
jobs!



**UNITED'S NEW S-9**

United's new S-9, a single assortment of only nine assemblies, enables you to give complete speedometer cable and casing service to 95% of all popular cars! See how many ways the S-9 simplifies your work:  
no cutting...no adjustments...no fitting...no terminals to install...  
no special tools...no need for big inventories...no comebacks!  
Ask your NAPA Jobber about the S-9 Assortment...soon!  
United Parts Mfg. Co., 1250 W. Van Buren St., Chicago 7.



HYDRAULIC BRAKE PARTS • BRAKE CABLES  
SPEEDOMETER CABLES • FUEL PUMP PARTS



"He finds thirsty people and brings them in!"

**THEY'RE  
BRIGHT!**

**THEY'RE  
RIGHT!**



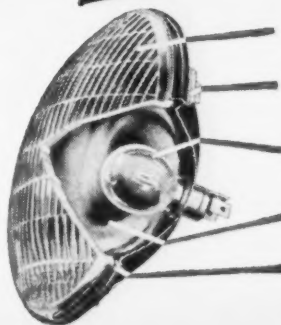
Guide Sealed Beam units provide maximum light output . . . all the light the law allows on upper and lower beam. The far-reaching upper beam takes the strain and eye-fatigue out of "long stretches" on the highway.

Light pattern of Guide Sealed Beam units is correctly engineered to meet today's driving conditions. These sturdy, metal-backed units reduce the danger of breakage during handling and installation.

## *They give Double Protection*

**No black-out** with Guide Sealed Beam units if the lens is broken or cracked on a trip. The unit continues to provide safe lighting until it can be replaced.

**No dim-out** throughout the long life of Guide Sealed Beam units. The metal reflector and glass lens are permanently sealed against moisture, dust and traffic film.



ACCURATELY MOLDED LENS FOR SAFE ROAD LIGHTING.

STURDY METAL REFLECTOR AND METAL LOCATING LUGS MINIMIZE BREAKAGE OF UNIT.

PERMANENT AND ACCURATELY FOCUSED BULB, SPECIALLY DESIGNED FOR LONG, EFFICIENT USE.

ALUMINIZED REFLECTING SURFACE PROVIDES HIGH EFFICIENCY THROUGHOUT LIFE OF UNIT.

LENS AND REFLECTOR PERMANENTLY SEALED TO KEEP OUT ALL DIRT, DUST AND TRAFFIC FILM.

**STANDARDIZE on *Guide* SEALED BEAM HEADLAMP UNITS**



**GUIDE LAMP—A UNITED MOTORS LINE**  
Available Everywhere Through  
**UNITED MOTORS DISTRIBUTORS**



***Guide* LAMP**  
Division of General Motors  
Anderson, Indiana



## Car Appearance . . . . . (Continued from page 41)

If the prospect cocks an ear, salesmanship can do the rest!

Oberman's "Car Appearance" department occupies about 900 sq. ft. of the building's spacious ground floor. It is spotted just off the building entrance, hence in the heaviest traffic area, and is seen by everyone who enters.

Brilliant illumination is an

important factor — over the working area just described are suspended seven, four-tube, commercial fluorescent units, much as a showplace might be covered by banks of lighting fixtures. Two things are accomplished with this illumination:

The department and details of the service are really in the

limelight, immediately noticeable by every customer. And more meticulous work is possible. Even the most minute mar or blemish in the car's finish can be spotted under such lighting. Better work naturally follows.

Next, fine, cooperative, painstaking labor in the "Car Appearance" department necessary if it is to become and continue to be a drawing service. This is equal in importance, if not surpassing, the other divisions of the setup.

"We think we are very fortunate in having, from the outset, a man who took 'Car Appearance' to his heart, and does each job as though it must be the best he has ever done," commented Oberman. "He's not afraid of elbow grease.

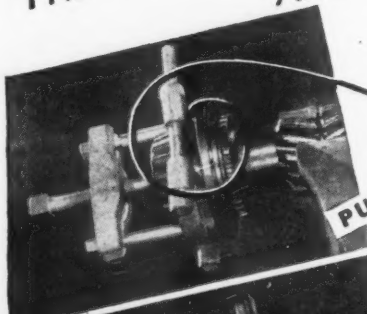
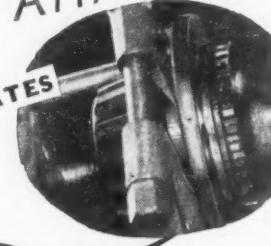
"Compensation for his work is an important consideration here," he continued. "We emphasized from the start that success of the department rested largely upon his efforts, and that his income would swell as 'Car Appearance' prospered here. The average four-door sedan in the major classification will run \$15.50 for our Colorglo treatment as given in our Car Appearance department. On a co-operative basis, Arthur Gordon, our Car Appearance expert, is paid about half that amount—we supply materials and bear ensuing overhead."

(Continued on page 108)

# ANOTHER *National* LEADER

GARAGE TOOLS

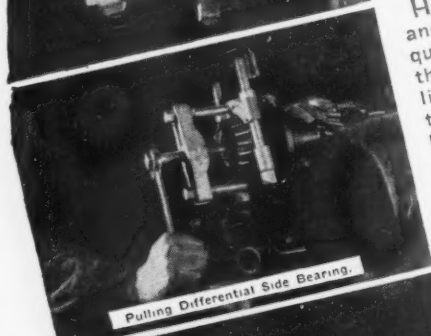
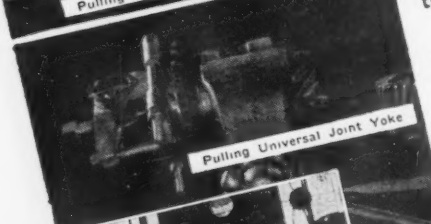
## THE NATIONAL BEARING SPLITTER AND PULLING ATTACHMENT


**PULLS SAFELY AND SEPARATES**

HERE is a tool designed to separate and remove bearings and gears quickly and easily without damaging the part removed. Where space is limited, the knife like edges of this tool are forced behind the gear or bearing . . . this wedging action from opposing sides separates the gears or bearings on the shaft. Then by using a NATIONAL Side Screw or Jaw Type Puller with this tool, the part is removed with the pressure distributed over the surfaces near the shaft. This prevents damage or distortion to the outer races or gears.

The holes in the face of this tool have  $\frac{3}{8}$ "—16 threads for use with either a NATIONAL C-98 or M-25 Gear Puller. Bearing Splitters are available in three sizes, permitting a range of  $\frac{1}{4}$ " to 6". Bright Cadmium finish.





Pulling Differential Side Bearing.      Pulling Universal Joint Yoke



Pulling Truck Pinion Bearing

Available at your automotive jobber—if out of stock write directly to factory giving name of your jobber.

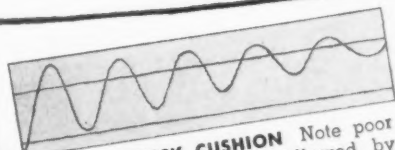


**National Machine & Tool Co. Inc.**  
JACKSON, MICHIGAN, U. S. A.

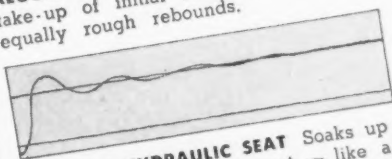


"He wants to know if the stagecoach stops here."

# Why More and More Dealers are Selling Bostrom Hydraulic Truck Seats



**REGULAR TRUCK CUSHION** Note poor take-up of initial shock followed by equally rough rebounds.



**BOSTROM HYDRAULIC SEAT** Soaks up initial shock and levels out — like a passenger car ride.

## 1 UNMATCHED COMFORT and SAFETY

Bostrom Hydraulic truck seats solve the age-old problem of driver fatigue, ill health and safety hazards caused by pounding truck seats. Shock absorber and suspension mechanism of the Bostrom seat soak up millions of jolts and jars instead of intensifying them and passing them on to the driver. The Ride-Graphs at the left show for the first time what actually happens to a single road shock in an ordinary truck seat as compared to a Bostrom Model 47 hydraulic seat.

## 2 NEW ECONOMY

Accurate tests prove that the Bostrom Model 47 seat outlasts ordinary seat cushions 6 to 1. The Bostrom seat eliminates "back scrub" that ruins even the best fabric. The seat has no coil springs to damage the fabric; no mechanical parts to wear out. Bonded rubber pad lasts a lifetime. New coverings are snapped on in 10 minutes. They put an end to truck layups and big bills for major seat repairs.

## 3 PROVED PROFIT

Many dealers have found that Bostrom hydraulic truck seats are good profit builders. The purchase of one seat often leads to a whole chain of sales. Bostrom advertising creates new prospects 12 months of the year.



Write for free folder  
"12 Eye Openers Concerning Truck Seats"

# BOSTROM

Bostrom Hydraulic Seats now standard or optional equipment on the following trucks: GMC, Diamond T, Federal, Hendrickson, Dart, Peterbuilt, Walter, Ward La France, FWD, Oshkosh, and Coleman. Be sure to specify Bostrom Model 47 Seats on your new trucks.

**BOSTROM MFG. COMPANY** 133 W. OREGON ST., MILWAUKEE 4, WIS.

When writing to advertisers please mention Motor Age

# Six "Profit Makers"

## For Your Shop!

You can build profits two ways. One is to sell more services. The other is to do your work at a lower cost.

These Magnus products and machines will make you more profits both ways!

### "As Is" Desludging with Magnus 755

Every \$1 invested in Magnus 755, lube and flushing oil and labor will pay you back over \$2 in profit. Remember—no dismantling is needed. Write for Bulletin #37.

### Sludge Prevention with Magnus Metaffin

There's a neat profit for you in every pint of Metaffin you sell for elimination of sludge formation in an engine. Sell a pint with every oil change! Write for Bulletin #23.

### Profitable Car Washing with Magnus Carfoam

Wash a car better in 15-20 minutes! Magnus Carfoam (liquid or powder) costs only 2½ to 3½¢ per car. No soap. No film. No chamoising. Write for Bulletin #39.

### Clean Carburetors, Fuel Pumps, etc., with Magnus 755

Saves time . . . saves hand work . . . saves "come-backs," too, because you get really clean parts. Write for Bulletin #31.

### Less Time, No Hand Work for Engine and Parts Cleaning with the Right Magnus Machine

There's a complete range of Magnus Cleaning Machines from which to select the one best adapted to your shop for faster, better, lower cost cleaning with a suitable Magnus Cleaning Material. Write for Bulletin #15.

### Magnusol for the Speediest Cleaning of Engines and Chassis

Spray on the Magnusol-solvent mix. Let soak. Rinse off with pressure spray of water. That's all. No heat. No hazards. Write for Bulletin #21.

### MAGNUS CHEMICAL COMPANY

174 South Avenue, Garwood, N. J.

IN CANADA—MAGNUS CHEMICALS, LTD.

4040 Rue Masson, Montreal 36, Que.

Service representatives in principal cities.

## Car Appearance

(Continued from page 106)

Statistically again, Gordon averages two cars daily, five and a half days weekly, and quite often he'll work overtime on a crowded schedule. His weekly wages on this plan run between \$75 and \$100.

Thorough training, of course, was a requisite during the early days of this "Car Appearance" department. Gordon was acquainted with the necessity of matching basic colors, touch-up paint work and three-way process that is an integral part of this "Car Appearance" department.

Following the usual car wash and drying, commercial cleaner is applied and removed over the entire car. The shade of Colorglo that matches (this is stressed in selling this service) the basic pigment of the car's paint is then carefully applied, and subsequently mechanically buffed and polished. All waxed surfaces are covered with a coat of transparent sealer, protection for the polished wax.

That isn't all. Oh, no. Other details of the complete Car Appearance service include washing of all interior trim and vacuuming of upholstery and

(Continued on page 112)



"Stop saying, 'Elemental, my dear Watson'! You didn't know the answer either until you looked it up in the Service Manual."





**AUTHORIZED FACTORY**

# REBUILT AC FUEL PUMPS ARE REBUILT -NOT REPAIRED



There's a world of difference between merely repairing a fuel pump, and rebuilding a fuel pump by the production-line methods used by United Motors Service.

AC fuel pumps accumulated for rebuilding are completely torn down and disassembled. Every part is carefully inspected, and all worn parts are discarded. And in every case, regardless of its condition, the diaphragm—the heart of the fuel pump—is replaced with a brand-new AC original-equipment diaphragm.

The assembly of the pumps is done on a production-line basis, each pump being inspected many times in the process to meet final specifications established by AC factory engineers.

*Every AC fuel pump rebuilt by United Motors Service is backed by the standard warranty policy.*

Authorized factory rebuilt AC fuel pumps are sold in all trading areas on an exchange basis by United Motors Service distributors.



## UNITED MOTORS SERVICE

DIVISION OF GENERAL MOTORS CORPORATION  
GENERAL MOTORS BUILDING • DETROIT 2, MICHIGAN



# the modern plastic filter that made the cotton-waste filter obsolete

**TWENTY-FIVE YEARS AGO**, Purolator originated the first oil filter to become standard equipment on an automotive engine. Subsequently, other companies followed Purolator in making oil filters and as a result, various types of filter material were used such as metal, fullers earth, etc. But actual experience always proved that cotton—the original Purolator filter material—gave the most efficient filtration obtainable at the time.

Then, shortly before the war, our engineers turned to modern plastics in an effort to find a new filtering material that would exceed the efficiency of our cotton waste. They found it. Test after test proved conclusively that the new filtering material produced sensational results.

Came the war, and the need for oil, air and fuel filtration was driven home forcibly to the armed services by severe combat conditions. Government filter specifications called for a filter that would trap abrasives measured in microns (.000039 of an

inch)—particles too small to be seen by the naked eye. The new Purolator Filter immediately met these specifications—hence the name Purolator *Micronic* Filter.

The new Purolator *Micronic* Filter employs a plastic impregnated cellulose filtering material which operates efficiently with mineral or additive oils. The special accordion pleated design provides 8 times more filtering area and, in fact, will trap 200% more dirt, dust, grime and abrasives than the cotton-waste type filter. This sensational filter is heat-proof, warp-proof, water-proof and unaffected by crankcase acids.

Car owners everywhere are demanding this revolutionary oil filter. They want the added protection the *Micronic* Purolator gives to their engines.

Make sure you are alert to the profit possibilities in pushing the sale of Purolator *Micronic* Oil Filters. Cash in on this greatest development in the history of engine protection.

**PUROLATOR PRODUCTS, INC.**

**NEWARK 2; NEW JERSEY, and WINDSOR, ONTARIO, CANADA**



*When writing to advertisers please mention Motor Age*



## Car Appearance . . . . . (Continued from page 103)

cloth covering; polishing of all chrome (dashboard, other interior hardware, and exterior trim) and, painting of running board and tires with a standard coating for such surfaces.

Gordon seeks out any scratches or chipped paint spots on the car and skillfully touches up these blemishes with Dupli-

color enamel. This might be called an added or "extra" detail in "Car Appearance" work. It makes quite a hit with the customers, Oberman assures us.

Next, signs can accomplish a lot in "Car Appearance" promotion. On one facing of a large triangular sign around the base of the corner Goodrich sign out-

side the building, this service is noted. Oberman and other shop employees use this bold-lettered sign to point out to gas customers, especially, the service that can be obtained if the car is left at the shop for a few hours. Naturally, many motorists spot the sign in passing and find it convenient to take advantage of the offer.

Inside the shop, at the rear of the Car Appearance department and a sock-in-the-eye to all comers, is a huge, multi-colored sign that lists step-by-step procedure of the service. It has brought a great number of inquiries and resulted in a good percentage of sales of this service.

Newspaper advertising is practically a "must" in promotion of this service. Good display ads, with cuts and plenty of bold copy arrest the attention of the motorists who are inclined to read and run. Repetition of such advertising serves to establish in readers' minds the location and advantages of Car Appearance service.

"We tried radio spot announcements for a while," said Oberman, "but fell back on newspaper advertising as the best medium, according to the results we got. Of course practically any kind of advertising, if carefully planned and execut-

(Continued on page 114)

**Wayne AIR COMPRESSORS**

**PACKAGED Units of Power**

## BUILT TO LAST LONGER

AND GIVE MORE EFFICIENT COMPRESSED AIR SERVICE

**CHECK UP** on your old air compressor. If badly worn, or overloaded, it will pay you to replace it now with a new, efficient Wayne Compressor. The time and power saved will pay for the new unit in a short time. Write today for catalog showing Wayne's complete line.

THE WAYNE PUMP CO. • FORT WAYNE 4, IND.



*Backed by*

for your protection

**NATIONWIDE SERVICE**

GASOLINE PUMPS • CAR WASHERS • AIR SCALES • HOSE REELS • AUTO LIFTS



"Got a hair-pin?"



**NOW!**  
**NEW MARKETS!**  
**NEW PROFITS!**  
**WITH 3 GREAT**  
**FRAM FILTERS!**

## Stock 'em! Sell 'em!

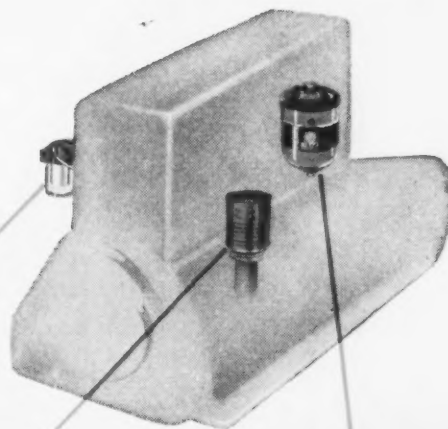
Sell your customers greater engine protection with Fram's three great Filters. Each Filter you sell means immediate profits *plus* repeat sales of genuine Fram Replacement Cartridges! Always ask, "HOW'S YOUR OIL FILTER?" It helps you get under the hood to Fram Filter sales! Yes, and by asking Fram's sales-getting question you'll pave the way to more sales of oil, oil changes, fan belts and other accessories!

### NEW Fram Gasoline Filter

Removes *both* water and solids from gasoline. Protects finely adjusted modern carburetor mechanisms. Four tailor-made models service 85% of all cars and light trucks. Universal model fits most others. One replacement cartridge fits all models, gives you a new chance for a sale *every time* you lift hood because cartridges can be replaced *while car is being gassed!*

### NEW Fram Crankcase Air Filter

Replaces conventional breather caps. Protects engines where *most* dirt enters. Fram's Crankcase Air Filter actually "Cleans the air your engine breathes." Universal adaptors fit most oil filler pipes. Three sizes of replacement cartridges are available for all operating conditions!



### FAMOUS Fram Filtron Filter

"Cleans the oil that cleans the motor!" Fram's Filcron Filter brings you plenty of repeat business on genuine Fram Replacement Cartridges. There are over 8,500,000 cars on the road today equipped with Fram Filters. Each one requires a minimum of two replacement cartridges per year. So ask every customer, "HOW'S YOUR OIL FILTER?" Fram Corporation, Providence 16, R. I. In Canada, J. C. Adams Co., Ltd., Toronto, Ontario.



**FRAM** *Oil-Air* **FILTERS**  
*Gas*

## Car Appearance . . . . . (Continued from page 112)

ed, can serve the purpose. We like the newspapers, nevertheless, and have had prospects for this service refer to our recurring advertisements."

Lastly, follow-up brings repeat business and increases the profit margin on individual accounts. In this office, a file is kept on all Car Appearance jobs.

Mailing pieces or postcards are sent to car-owners at from 90 to 120 days after the initial job, suggesting that a re-sealing service will renew and protect the original glossiness.

"Obviously, car use has a lot to do with the lasting power of Appearance service," explained Oberman. "With every original

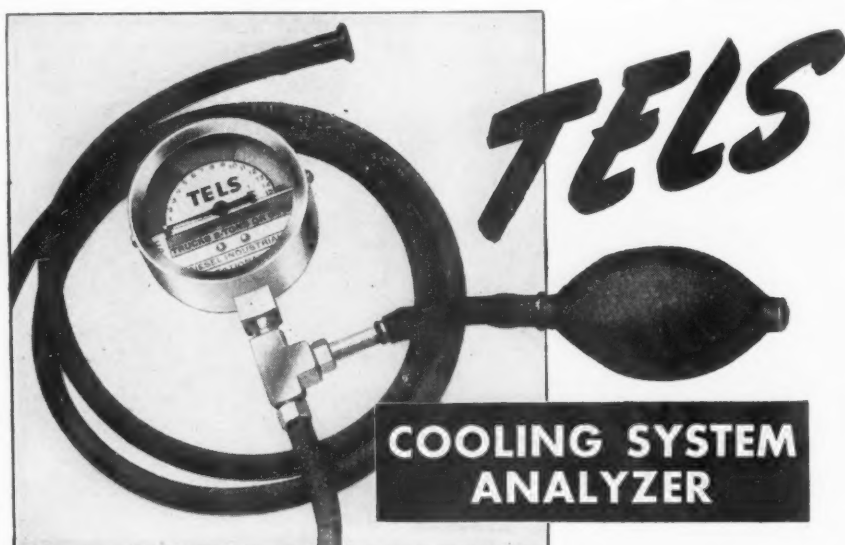
sale of this service, we tell the motorist that hard use of his car necessitates a repetition of the service at six-month intervals. In the interim, we suggest a re-sealing job will further maintain and protect the like-new gloss our service gives."

Re-sealing, including a thorough cleaning and sealing application, costs the motorist \$4.50, said Oberman. The majority of those who buy Car Appearance service are favorably impressed by the re-sealing suggestion, and the department's profits are accordingly increased.

Follow-up is especially profitable, if the automotive shop in question maintains a parking service. This frequently entails contract parking, affording a substantial list of prospects. This Goodrich outlet has some 200 such contracts, and promotion sales is steadfastly aimed at these accounts.

With a number of cars regularly on hand, the original service is more easily suggested and sold—follow-up re-sealing service is equally welcomed by the contract motorists.

Gordon, the "Car Appearance" expert, has worked up a number of "personal care" accounts among the contract parkers. In a nutshell, this amounts to the motorist agreeing to protection of his car's finish at the discretion of Gordon. He compliments Car Appearance service and Gordon's workmanship in this manner, and Gordon, in turn, backs up his trust.



### Quickly Locates All Cooling System Troubles

Saves TIME . . . MONEY . . . CUSTOMERS

You'll find TELS one of the most valuable instruments in your shop.

TELS is the scientific test instrument that accurately locates internal and external leaks and other cooling system troubles. TELS duplicates normal operating pressures at which troubles occur—then quickly reveals those troubles. Easy-to-follow chart supplied with each instrument.

Save your mechanics' valuable time. Save money on cooling system servicing. Increase your sale of fan belts, hose, clamps, gaskets, caps, thermostats, etc., by definitely proving their need. Keep your good customers happy.

Order your TELS from your jobber today.

Only  
\$12.50 Complete  
from your  
Jobber

CASH IN  
with the  
TELS  
Dealer Decal  
as featured in the  
SATURDAY  
EVENING POST

**JAMES INDUSTRIES, Inc.**  
SKANEATELES, N. Y.



"Oh, he likes to put his own air in his tires."





# WE CALL 'EM BY THEIR FIRST NAME — "MANLEY"

*SURE, there are Manley Presses, Manley Floor Cranes, Manley Wrecking Cranes—a whole crew of minute-and-muscle-saving "Manleys." When the work gets jammed up, we can put through a lot more jobs when we can "let Manley do it."*

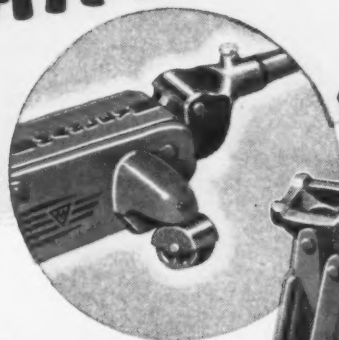
These Manley All-Steel Jacks are precision-made. They're built to take punishment. They have what it takes to stay on the job where jacks are the busiest equipment in a busy shop. Complete hydraulic unit easily removed for cleaning or adjusting.

**MODEL LJ-1½**—A handy, light-weight, all-steel curb jack. Capacity 1½ tons. Available with regular or swivel wheels.

**MODEL J-1½**—A ruggedly-built jack for shop use. One-piece steel frame and steel lifting arm. Capacity 1½ tons.

**MODEL J-2**—for heavy duty service, 2-ton capacity. All-steel, box-type one-piece frame and steel lifting arm. Manley also offers MODEL J-4 (not illustrated) of full 4-ton capacity.

● Order From Your Manley Distributor



SWIVEL WHEELS  
(optional at slight extra cost)

MODEL LJ-1½

MODEL J-1½

MODEL J-2

**ACCO**

York, Pa. • Chicago • New York • Portland • San Francisco • Bridgeport, Conn.



**MANLEY MANUFACTURING DIVISION  
AMERICAN CHAIN & CABLE**

*The Best Equipped Shop Gets the Profitable Business*

**MANLEY**  
Automotive Service  
**EQUIPMENT**

## Better Accounting . . . . . (Continued from page 43)

computed because all deductions are not taken, income tax is paid on an excessive amount.

Fifth. Pay your bills by check so that you have a record of the transaction and an automatic receipt. Put the payee's name, amount paid, and account on the check stub. We have audited the check books of automotive

maintenance men where the stubs were absolutely blank and checks sometimes lost, strayed or badly jumbled, necessitating tedious and expensive analysis to prepare a financial statement. Keep accurate detail of income and outgo in your check book.

"But what about expenses paid out in cash?", asked one au-

tomotive maintenance man when we advised him to pay all bills by check. For small pay-outs, standard accounting device designed to pass cash disbursements through the checking account. Follow this procedure: Draw a check for \$10 or more, depending upon petty cash expenses per week. Cash the check and put the money in a petty cash box or drawer, then draw upon this fund for petty cash expenses, leaving slips in the drawer for pay-outs. When the fund gets low, replenish it by drawing another check for \$10 to "Petty Cash" and enter the expense slips in the general journal or other book of original entry. Follow this procedure with consistency so that petty cash expenses clear through the checking account. At all times, the slips in the petty cash drawer or box, plus the petty cash on hand, should equal \$10 or whatever sum the automotive maintenance man sets as the fund's total.

Sixth. Watch your costs. Without a good costing system, you cannot prepare experience figures that enable you to determine accurate and profitable prices. Comparatively few automotive maintenance men cost their jobs accurately although they may keep tabs on income and outgo for their financial records. A job costing sheet should be compiled for each job. The use of proper costing forms en-

(Continued on page 118)



### AMAZING all-purpose ELECTRIC TOOL will

- Drill up to 1/4" dia.
- Ream up to 1/2" dia.
- Tap up to 1/2" dia.
- Run Nuts up to 3/8" dia.
- Drive Screws up to 3/8" dia.
- Hole Saw up to 1 1/2" dia.
- Bore Wood up to 29/32" dia.
- Drive Studs up to 3/8" dia.
- Drill Masonry up to 3/8" dia.
- Extract Broken Studs up to 3/8" dia.
- Wire Brush up to 3/8" dia. shanks.

Uses Standard Attachments  
(110 V or 220 V Models available)



**Make it the ONLY all-purpose Electric Tool**

The tremendous power of the "rotary impacts" performs a multitude of operations not possible with any other electrical tool. What's more remarkable—there is no kick—no twist to the operator.

The IMPACT Tool is the greatest labor-aiding, time-saving portable power tool ever offered. It will save up to 90% of the time on nut running operations alone.

Call your Jobber now for a demonstration of this amazing all-purpose electric tool. They're available for immediate delivery.

**Ingersoll-Rand**  
210-18 11 Broadway, New York 4, N. Y.



"I'm changing a flat."



**YOU'RE  
THE  
DOCTOR**

**-AND HERE ARE  
YOUR MEDICINES**

**We tell the public in our advertising  
that you are a "professional cooling system expert."**

We never tell the motorist to pour a can of one of our products into his radiator:

We always tell him to see *you*.

In national magazine advertising, we are saying there is a lot more to taking care of cooling systems in the spring than pouring in radiator preparations.

Good radiator products help (and we think we have the best cooling system products in the world) but the most important thing is a good man on the job —and that's **YOU**.

And we want you to have your chance to make up to **FOUR TIMES AS MUCH PROFIT** as you would if you merely sold

cans without service. We want you to sell our Cleaners and Anti-Rust and Stop Leak, as well as anti-freeze. But we want you also to make money on installation labor and to pick up profits on fan belts, hose connections, clamps, gaskets, etc.

Our products around which you can sell *your* know-how this spring are: **NOR'WAY\* CLEANER, NOR'WAY QUICK FLUSH, NOR'WAY STOP LEAK** and **NOR'WAY ANTI-RUST**.

\*Reg. U. S. Pat. Off.



SPECIALTIES DIVISION, COMMERCIAL SOLVENTS CORPORATION, 17 EAST 42ND STREET, NEW YORK 17, N. Y.



## Better Accounting . . . . . (Continued from page 116)

ables the automotive maintenance man to check over his costs at any time and compile experience figures. Such information is a big aid to him when estimating on subsequent jobs.

Seventh. Do not manage your business on memory because memory has too many foxholes. Keep accurate records and use

them as guides to efficient management and profitable costing. Prepare and analyze a profit and loss statement monthly to keep a close check on operating expenses. Also prepare a balance sheet or financial statement quarterly to determine how you stand on assets, liabilities and net worth. Only careful analy-

sis of business statements based upon accurate recordings will give you a dependable perspective of your ability to manage successfully. Keep these statements in a file for comparative study — and don't let them gather dust. If you expect to stay in the clear during the hectic days to come, you've got to do a better job of recording operations and analyzing results than the majority of automotive maintenance men have done in the past.


Eighth. Include all overhead expense in your selling prices. Many automotive maintenance men do not include all legitimate expenses under overhead. Some omit depreciation, others omit a reasonable compensation for their own services, petty cash items, etc. Unless all expenses are included under overhead, the automotive maintenance man will pay higher income taxes and give customers too much for their money because he will short-cost his jobs.

Ninth. Many automotive maintenance men use a desk drawer as a catch-all for important papers, invoices, letters, job costing records, etc., and then go on a scavenger hunt when they want to find anything. Good accounting embraces a competent recording and filing system. One without the other is weak. You may record adequately, but if you cannot check back for infor-

(Continued on page 120)

This sign  and this sign   
plus this plaque  will help you

to better business and bigger

profits  in a great nation-wide

public relations program



for reputable Brake Service Dealers.



Dealers co-operating in this

program are identified to 30,000,000

listeners a month



on the

Johns-Manville national radio program.



Ask your J-M distributor for complete details or write Johns-Manville, Box 290, New York 16, N.Y.



"Tom has a very low opinion of those low-slung motors."

# Smoke from Exhaust



**...MAN HOURS LOST**



**CLEAR THE AIR WITH AIR CLEAR.** Headaches, nausea, drowsiness caused by exhaust gases reduce the efficiency of your skilled mechanics—cause lost man hours—lower profits.

AIR CLEAR destroys headache-producing exhaust gases electrically—keeps the air fresh and clean. Your mechanics will work better—feel better with AIR CLEAR on the job. You'll feel better, too, when profits go up and gripes go down—and last, but not least, you'll have the satisfaction of knowing that

*your* shop is a better place to work in. Write for full details.

**GENERAL OZONE CORPORATION**  
17 West Sixtieth St., New York 23, N. Y.

Manufacturers of ozone generating equipment for garages . . . refrigerated cars . . . walk-in coolers . . . air recirculating systems . . . homes . . . hospitals.

**IMPORTANT**

Approved by Underwriters' Laboratories, Inc.

**GARAGE**  
*Air Clear*  
**DESTROYS EXHAUST  
GASES ELECTRICALLY**

## Better Accounting . . . . . (Continued from page 113)

mation because your filing system is off the beam, your records lose some of their effectiveness.

Deeds, accounts receivable, notes and other important documents cannot be insured, so put them in a safe. Use metal files for letters and other papers. Keep books in durable binders. Guard against check forgery

with a check-writer or other means. Get yourself a few looseleaf binders for profit and loss statements, balance sheets, job costing records, etc. Where the bookwork is heavy, adding machines and comptometers save time.

Businessmen in the smaller brackets usually feel that they

cannot afford systematic procedure or that it isn't necessary because they can rely on memory for details of the limited transactions they supervise. This is fallacious reasoning. Even a small business requires scores of recordings over a period and memory is not fallible, and so, businessmen who succeed best are those who manage their affairs systematically. And they give fewer headaches to others in the field because they are less likely to cut prices or under-price unintentionally.

An accounting system fitted to the business and the equipment to maintain it systematically, are necessary to maximum profits as a valve grinding machine, brake drum lathe, power drill and other mechanical equipment in the shop.

### Light Battery Chargers By Richardson-Allen

A new line of small, light, portable battery charges has been introduced by the Richardson-Allen Corporation of New York.



Each unit features a meter which can be read while the battery is being charged. Circuit breakers prevent blown fuses resulting from crossed wires. Models are available rated from 6 amps. to 80 amps. for average to fast charging. The units plug in to normal 110 volts, 50 to 70 cycle AC current. The line includes portable rectifiers suited for home, garage and service station use; trickle chargers for battery maintenance in stores or garages and special models for air craft use.



## HERE ARE THE PRODUCTS TO HELP YOU Keep the Business by KEEPING THE BUSINESS CLEAN

with

A Complete Line of



Automotive Cleaners

Made by a company with 36 years of know-how in the manufacture of cleaners and soaps, including the famous HARCO Green Bar Soap. The line includes:

**CARBOSOLVE**—A triple-action carburetor cleaner and carbon remover. Cuts cleaning time in half. Does not pit, corrode or damage metals. Meets U. S. Government specifications.

**GREAS-OFF**—The all-purpose degreasing solvent. Highly concentrated and emulsified. Brush it on—Hose it off. For cleaning engine blocks, motor parts, used car chassis, radiators, etc.

**CAR WASH**—A revolutionary, non-alkaline formula in powder form. Saves time because it is streakless and requires no wiping.

**DRIVEWAY CLEANER**—Quick-acting powder compounded for fast, easy cleaning of concrete, asphalt and wood floors, driveways and lube pits.

Contact your automotive supplier today  
or write us direct for further details.

## HARLEY SOAP COMPANY

Philadelphia 37, Pa.

## KEEP THE BUSINESS CLEAN



# RUSHED?

Turn out more jobs — faster —  
with the **MILWAUKEE** Fender Hammer



## Here's Why . . .

You save time on all finishing work! You can turn out finishing jobs faster — and better. Cuts down your usual filing and grinding time.

You can't damage the metal . . . even though you have never used a pneumatic hammer before! The MILWAUKEE Hammer has a patented floating head and dolly. It will not nick the metal. That means all classes of body men can use the hammer with complete safety — on the first day. No need to restrict its use to your expert hammer men only.

You can expect to get out more jobs — obtain smoother finishes — make more money. Why waste anymore of your valuable time? Ask your jobber for a MILWAUKEE Reshaper today!!!



These 5 features help turn out smoother finishes

### FAST ACTING VALVE



Your hands free at all times. No levers to tire your hands. Simple on-off adjustment. Steady no-leak pressure.

### SPEEDY RATCHET RELEASE



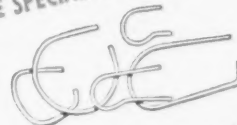
Always correct pressure on metal. Wider throat opening. Clears obstructions. Releases instantly with a slight touch.

### PATENTED FLOATING HEAD AND DOLLY



You cannot nick the metal. Hammer blows automatically hit the metal at right angles. You smooth the metal faster — easier.

### FIVE SPECIAL FRAMES



No more hard-to-get-at places. Gives you complete body and fender coverage.

DRILLS • SANDERS • FENDER HAMMERS • GRINDERS • POLISHERS

# Milwaukee

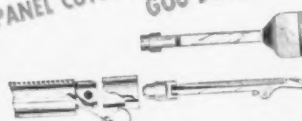
## Guaranteed Tools

MILWAUKEE ELECTRIC TOOL CORP., Milwaukee 8, Wis.

5330 W. State Street

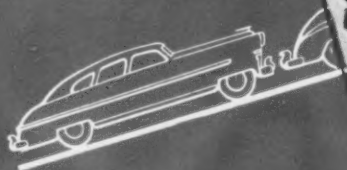
### PANEL CUTTER

### GOO SCRAPER

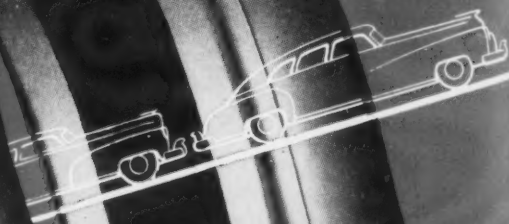


You can cut panels fast. Scoops out sound deadening "goo". No need to apply heat.

The Only



Tire Franchise



**INLAND  
TIRES**

*Take to the Road*

Four-color metal  
signs identify  
Inland Franchised  
Dealers.

**INLAND RUBBER**

# That Makes YOU The Boss!



## YOU Give a 15-month Warranty



The strongest, fairest tire warranty in America! No mileage limit. Tailor-made for the independent dealer. Keeps you a jump ahead of competition with a first line tire PLUS an ironclad warranty and adjustment plan.

More built-in mileage with Cool Twist® rayon cord . . . Inland's specially treated cord that fights heat.

Safety-sure, quick-stop 8-rib tread . . . scientifically engineered with more than 2750 road gripping, speed-breaking surfaces.

Tough, live-rubber carcass . . . extra strong and husky -- resists cuts and bruises.

Extra riding comfort for thousands upon thousands of cool-running, blowout-free miles.

Full range of popular passenger and truck sizes -- black and white sidewalls. Complete stock of all sizes for quick delivery -- at your automotive distributor.

© T. M. Inland Rubber Corporation

**FIND OUT TODAY HOW YOU CAN MAKE MONEY WITH AN INLAND FRANCHISE**

**CORPORATION** Tire Builders Since 1913



## YOU Make on-the-spot Adjustments!

You're the boss! No delay . . . no red tape. You make adjustments in a matter of minutes . . . that cost you nothing . . . keep your customers happy.

**INLAND RUBBER CORPORATION**  
146 W. 27th Street, Dept. M44 Chicago, 16, Illinois

Please send me complete details about the new Inland Franchise opportunity.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

TOWN \_\_\_\_\_

**INLAND**



Like Spearing  
Fish in a  
Barrel—



## It's a Cinch to Sell These BOWES Spring Items!



● You don't have to be a super-salesman to sell these popular Bowes "Seal Fast" radiator protectors! Every motorist wants to get rid of winter's rust and dirt, and greet warmer weather with a clean radiator. Display these items prominently, drop a hint or two . . . and watch them sell!

**Radiator Klen-Zur . . .** Quickly removes the rust and dirt of winter—makes the cooling system work like new.

**Rust-Rout . . .** Protects the cooling system, prevents the accumulation of more rust.

**Radiator Stop-Leak . . .** This excellent product seals any existing leaks and effectively prevents new leaks.

Stock up NOW with this fast-selling radiator team . . . sell all three as a complete service : . . be ready for spring profits!

### GET THAT TIRE REPAIR BUSINESS!

There's lots of extra profit in Bowes "Seal Fast" Tire Repairs. Not only that, but you couldn't have a better traffic-getter. The dealer who offers Bowes tire repairs wins friends and customers for new tires and reconditioned tires. Let your Bowes "Seal Fast" distributor show you the way to more and quicker business!

**BOWES "SEAL FAST" CORPORATION  
INDIANAPOLIS 7, INDIANA**

## The Hillman Minx

(Continued from page 46)

cylinder type is fitted to the front wheels. Springing is by semi-elliptics all around, making the Hillman one of the world's few cars not yet using an independent front end. Hydraulic shocks are standard.

The sedan has separated front seats and a bench type rear seat 42 in. wide. The car is obviously designed for four passengers and a moderate amount of baggage, although five might be carried in a pinch.

The convertible coupe's interior arrangements are very similar to those of the sedan, although it is a two-door. The top is manually operated. The station wagon or "estate car" as Rootes call it, is quite different from the American counterpart. The body, aft of the front seat, expands in both height and width, after the manner of a delivery truck. It is identical, in fact, with the panel delivery, except for the side doors and windows.

The panel delivery offered by Rootes is known as the Commer, although built on the Hillman chassis, Commer and Karrier being the names given to the Rootes commercial vehicle lines.

## Manley Wrecking Crane For Installation on Jeep

A 3-ton wrecking crane designed especially for a Jeep, has been developed by the Manley Manufacturing Division of the American Chain and Cable Company of York, Pennsylvania. Having a dead weight of 300 lbs., this crane is made of tubular steel, works on all bearings and is self-lubricated. It uses Tru-Lay Preformed Cable and an automatic brake holds the load when cranking is stopped. There are no ratchets or pawls to operate. The entire working mechanism is enclosed against dirt and bad weather. A full swivel nose permits line pull from all directions.

## How to have a good following

**Y**OU'LL keep old friends and make new ones, too, if you let your customers know that you use top quality repair materials. And the best way to let them know it is to point out the trade-mark "Timken" on the tapered roller bearings you install.

That's because "Timken" means *the best in bearings* to everybody—due to dependable performance for nearly 50 years, plus consistent advertising. And the very fact that you use Timken bearings shows the high quality of your service.

So, to have a good following . . .



*... Just tell 'em it's "TIMKEN"®*



Because Timken tapered roller bearings insure trouble-free operation, you'll find them on most leading makes of automobiles, trucks, and busses. Timken bearings eliminate friction, hold wear to a minimum, keep parts in rigid alignment and take any combination of radial and thrust loads.

The Timken Roller Bearing Company is the only bearing manufacturer in America that makes its own steel. And the Timken Company is the acknowledged leader in 1) advanced design, 2) precision manufacture, 3) rigid quality control, 4) special analysis steels.

To help keep customers satisfied, make sure the trade-mark "Timken" is on every tapered roller bearing you install. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address, "TIMROSCO".

# TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

**TAPERED ROLLER BEARINGS**

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

## Erny's Earnings . . . . . (Continued from page 47)

Another factor in getting brake work, is that the Ernie Brake Specialist shop is located on a main traffic street near the center-of-town. According to Bob location has been found to be a vital factor in bringing in brake work, because when businessmen pass by his shop day after day on their way to work,

his shop is impressed on their minds. Much of his brake work comes from this source. These businessmen often pick up one of Bob's men to drive their car back to his shop after the customer lets himself off where he is employed.

Bob and his five employees can average brake work on about

ten cars a day. The only other work done by him in addition to brake service is electrical and carburetor work. "Usually when working on a car," he says, "we find that there is some electrical or carburetor work to be done in addition. We inform our customers of the existing conditions and 95 per cent of time do the work for them." Bob never does any work on a car without first informing the customer and showing him exactly what has to be done. "It seems as if many car owners feel that garagemen like to say that certain work is needed on a car when it don't," he adds, "just to inflate the final bill. We let our customers know exactly what they get and how much they are to pay for our services."

Relying on the merchandise and service supplied by local parts and equipment jobbers, Bob Erny has built a steady income, from brake linings, drums and parts. He sells tires and accessories as well, although he never allows a customer to feel that he is being "loaded" or "oversold" on such merchandise.

The brake shop measures 30 by 150 feet and is complete in every detail with a full line of tools and alignment equipment, a drum lathe, flushing and bleeding equipment, cylinder hones, a valve grinder, a headlight tester, straightening equipment and electrical testing equipment.

Inasmuch as the shop needed more space, Bob built an overhead balcony at the end of his shop. On this balcony he has most of his electrical and carburetor testing equipment as well as two cleaning tanks. Three days work and \$150 gave him 240 sq. ft.

"With the large number of old aged cars on the market, all good brake specialists should be able to keep busy," Bob declared, "but it must be understood that customers are determined to get good workmanship, quality materials and proper pricing. By giving your customers satisfaction with these three points, all of us can expect profitable business."



### 1 Pennzoil Advertising brings 'em in!

Right in your own community, Pennzoil advertising reaches 5 out of 6 car owners† and directs them to your place of business month in, month out!

### 2 Pennzoil Performance brings 'em back!

The quality performance of this famous Pennsylvania oil satisfies the steady, profitable customer—the best bet for all your services and merchandise!

This power to bring customers in and hold them is a double-action profit opportunity well worth investigating. See your Pennzoil distributor, or write to us for his name now!



†OVER 45 MILLION REGULAR

SELLING MESSAGES

CIRCULATED EVERY MONTH!

THE PENNZOIL COMPANY • Executive Offices • OIL CITY, PA.

\* Trade-mark Registered

Member Penn Grade Crude Oil Ass'n., Permit No. 2

**PENNZOIL MOTOR OIL & LUBRICANTS**



for Superior Replacement or Special Change-over Service on—



## WHEELS and REPLACEMENT PARTS...



**ALABAMA**  
Cruse-Crawford Wheel & Rim..... Birmingham 3

**CALIFORNIA**  
Motor Rim & Wheel Service..... Los Angeles 15  
Motor Rim & Wheel Service..... San Francisco 9

**COLORADO**  
Quinn & McGill Motor Supply..... Denver 1

**CONNECTICUT**  
Connecticut Wheel & Rim..... Hartford  
Connecticut Wheel & Rim..... New Haven 11

**FLORIDA**  
Southeast Wheel & Rim Co..... Jacksonville 3

**GEORGIA**  
Harris Automotive Service..... Atlanta 3

**ILLINOIS**  
Stone Wheel Incorporated..... Chicago 16  
Peoria Wheel & Rim Company..... Peoria 3  
Illinois Wheel & Brake Sup..... Springfield

**INDIANA**  
Indiana Wheel & Rim Company..... Indianapolis 4  
Wire & Disc Wheel Sales..... South Bend 18

**IOWA**  
Stone Wheel Incorporated..... Davenport  
Des Moines Wheel & Rim Co..... Des Moines 12

**KANSAS**  
Borbein-Young & Company..... Wichita 2

**KENTUCKY**  
Auto Wheel & Rim Service..... Louisville 3

**LOUISIANA**  
Southern Wheel & Rim Co..... New Orleans 13

**MARYLAND**  
R. W. Norris & Sons Inc..... Baltimore 3

**MASSACHUSETTS**  
New England Wheel & Rim..... Boston 15

**MICHIGAN**  
Rim & Wheel Service..... Detroit 2  
Rim & Wheel Service..... Grand Rapids 2

**MINNESOTA**  
Pioneer Rim & Wheel Company..... Minneapolis 4

**MISSOURI**  
Borbein-Young & Company..... Kansas City 8  
Borbein-Young & Company..... Springfield  
Borbein-Young & Company..... St. Louis 8

**NEBRASKA**  
Morgan Wheel & Equipment..... Omaha 2

**NEW JERSEY**  
Wheels Incorporated..... Newark 4

**NEW YORK**  
Wheels, Incorporated..... Albany 1  
Frey, The Wheelman, Inc..... Buffalo 3  
Wheels, Incorporated..... New York 23  
Frey, The Wheelman, Inc..... Rochester 7  
Colbourn Wheel & Rim Co..... Syracuse 4

**NORTH CAROLINA**  
Carolina Rim & Wheel Co..... Charlotte 1  
Carolina Rim & Wheel Co..... Raleigh

**OHIO**  
Motor Rim Manufacturers..... Akron  
Rim & Wheel Service..... Cincinnati 2  
Motor Rim Manufacturers..... Cleveland 1  
Hayes Wheel & Spring Service..... Columbus 15  
Rim & Wheel Service..... Dayton 3  
Wheel & Rim Sales Company..... Toledo 4

**OKLAHOMA**  
Southwest Wheel Inc..... Oklahoma City 1

**OREGON**  
Auto Wheel Service..... Portland 9

**PENNSYLVANIA**  
Standard Wheel & Rim Co..... Harrisburg  
Kay Wheel Sales Company..... Philadelphia 4  
Thomas Wheel & Rim Company..... Philadelphia 30  
Wheel & Rim Sales Company..... Pittsburgh 13

**TENNESSEE**  
Harris Automotive Service..... Knoxville 17  
Beller Wheel, Brake & Supply..... Memphis 3  
Beller Wheel, Brake & Supply..... Nashville

**TEXAS**  
Southwest Wheel Inc..... Dallas 2  
Southwest Wheel Inc..... Houston 2  
Southwest Wheel Inc..... San Antonio 6

**UTAH**  
Henderson Rim & Wheel Serv..... Salt Lake City 1

**VIRGINIA**  
Dixie Wheel Company..... Richmond 20

**WASHINGTON**  
Motor Wheel & Parts Co..... Seattle 22  
Bearing & Rim Supply..... Spokane 8

**WISCONSIN**  
Stone Manufacturing Company..... Milwaukee 3

**CANADA**  
Alberta Wheel Distributors..... Edmonton, Alberta  
General Automobile Equip..... Montreal, Quebec  
Wheel & Rim Co. of Canada..... Toronto 5, Ontario  
Wheels & Equipment Limited..... Vancouver, B. C.  
Automobile Supply Company..... Winnipeg, Manitoba



ASSURES PROVEN PRODUCTS AT...  
**KELSEY-HAYES WHEEL COMPANY**  
DETROIT 32, MICHIGAN



Wheels—Hub and Drum Assemblies—Brakes—"Vacdraulic" Brake Power Units—for Passenger Cars, Trucks, Buses—made by Kelsey-Hayes' 4 Michigan Plants and Windsor-Canada Plant • "Magdraulic" Electric Brakes—"Lathan" Vacuum Power Brake Equipment for Tractor-Trailers—made by Kelsey-Hayes' South San Francisco-Lathan Plant. Wheels—Hubs—Axles—Parts for Farm Implements—made by Kelsey-Hayes' French & Hecht Plant at Davenport, Iowa.

## "Jalopy" . . . . . (Continued from page 62)

toise, so they called the new-found land the Galapagos Islands, meaning Tortoise Islands or the Islands of the Tortoises.

Words describe creatures having one or more of their characteristics: tortoise-footed, tortoise-like, tortoise-paced. Extending simile to metaphor, a tortoise-like person or thing is

aptly called a tortoise. It is my belief that peons in Mexico used precisely that metaphor. They went farther and got into the natural habit of referring to an old automobile as a "galapago" or tortoise. Most of the vehicles to which the term was first applied, according to this theory, were not only slow and aged;

they were much heavier than the lighter-weight models then and since current.

Isn't it reasonable to assume that, after this expressive word traveled across the border into the United States, it met the fate of many other words thus transplanted? Evidently, it was too long for the American auto mechanics who adopted it. They cut it down from four syllables to three, making it "galapa," which they first pronounced "galahpa" (or "galoppa") and, finally, "galahpy" (or "galoppy").

It seems to me plausible that as the word became used more frequently in everyday slang the hard "g" was switched to a soft "g" ("j"), resulting in the now common "jalopy."

The statement, in the first paragraph, that this is the first plausible derivation of "jalopy," is made on the authority of Henry L. Menchen, acknowledged as the leading explorer in this field and compiler of the standard reference work, "The American Language." I submitted the idea to him before going out on a limb among the literati. "I needn't tell you," he wrote, "that I have read your suggestion about 'jalopy' with the greatest interest. It seems to be much more plausible than any other etymology that I have ever heard."

So, if my speculative reasoning is sound (meaning if my dope is right, or my hunch turns out to be the real McCoy), then the millions of jalopies on American roads are just so many turtles.

### BACK YOUR GRINDER WITH A BACKSTAND AND CASH IN ON BONDED-BRAKE SERVICE

A single pass on a backstand belt is all it takes to grind the new brake shoes level, chatter-free and "toothy"—RIGHT for perfect band-to-shoe bonding. And in removing old bonded-type bands for relining, the worn "stuck-on" linings are whisked off quickly and easily with the same operation. But what's more, this same all-shop tool shortens scores of jobs because it grinds, it polishes, it sharpens, it finishes—quickly—economically.

And here are the two big reasons why. First, the abrasive belt is sharper and faster. Second, the resilient contact wheel delivers a soft, wide-area grind. You can "feel" the new cutting action the minute you try the belt-backstand method. And it's a simple, inexpensive conversion for your present bench grinder. Write us for a free demonstration in your own shop.

**BEHR-MANNING**  
(DIVISION OF NORTON COMPANY)  
**TROY, N. Y.**



"Say, I'm up a tree. I wonder if you could give me some help."

# Silence is Golden



Witcote instantly stops vibration and "tin-panny" noises ... prevents squeaks from loose seams and joints ... keeps body bolts from working loose and causing rattles. It also prevents rust and undercar corrosion.

Many shops are making a handsome profit from Witcote service. Are you getting your share?



**WITCOTE**  
Reg. U. S. Pat. Off.  
UNDERCAR PROTECTION  
*Stops Noise*

Witcote is the sound deadening material car manufacturers use on the production line. Ask your jobber.



SEE US AT THE A. S. I. SHOW  
BOOTH 428-430

**WITCO CHEMICAL COMPANY**

435-G N. MICHIGAN AVE.  
CHICAGO 11, ILL.

ESTABLISHED  
1920

OFFICES IN  
PRINCIPAL CITIES



## Towing . . . . . (Continued from page 63)

local firms shy away from long-distance towing and are apt to put off answering such calls. Reid & Deas gives prompt attention on each request for out-of-town towing, and, whenever possible, will start after the stranded car immediately. Also, rates are kept as low as possible and great care is taken to avoid

extra damage to the towed car while in transit. The 24-hour tow service has brought in a lot of permanent customers from nearby who have been influenced by the good service from a tow job.

Cars towed out of town sometimes return for work at a later date. While the owner may pre-

fer a home-town repair job at that particular time, he may decide to let Reid & Deas drain his crankcase, check his fuel pump, or change his sparkplugs the next time he stops in West Point. Because of the courteous service rendered them by Marshall and E. M. Deas, co-owner of the business, out-of-town motorists often recommend the place to friends who are passing through West Point, and many minor sales result.

R. B. Marshall declares that a very healthy profit can be derived from long-distance towing if a fair profit is charged and an effort is made to solicit future business from the motorist towed. He points out that hauls of 20 to 30 miles can usually be accomplished in a couple of hours, and that the job can be made well worthwhile without sticking the customers. Marshall says that their long-distance towing is by no means an accommodation service.

Reid & Deas' tow service is promoted over WROB, the local radio station, via newspaper ads and through giant calendars posted in cafes, hotels, tourist courts and other service stations over a wide area. The firm has a large advertising budget, a good portion of which goes to promotion of tow service.

The wrecker is given constant check-ups and worn parts are replaced before any chance for danger has arisen. The wrecker drivers and assistants are specially trained and only well-seasoned men are used. Towing, feels Marshall, demands considerable skill and training just as does operation of the wrecking equipment.

"Once each month," Marshall said, "we hold a general sales meeting. Everyone is invited to make suggestions as to how we may improve our service."

Reid & Deas maintain 17 full-time employees. A few of these men work at a branch station on a nearby trunk highway. Both stations operate 24 hours per day.

Towing has brought top per hour profit to Reid and Deas.



### LOOK TO



### FOR MORE SERVICE



Your Davison Service Representative is always as near as your phone. He is ready to give service with Free sales helps to increase your business or service on supplies to keep it running smoothly. Yes, even service on spray equipment to avoid costly shutdowns. All are services that spell more profits for you when you sell Fendix—the scientifically formulated undercoating that gives you the safety solvent—more coverage per drum—easier application. There is always

### MORE FOR YOU FROM FENDIX

Write for a DAVISON factory representative or authorized distributor to call and give you the full story.

**Fendix is listed by the Underwriters' Laboratories Inc. and carries the Underwriters' Laboratories Re-examination Service Marker**

THE DAVISON CHEMICAL CORPORATION  
*Progress through Chemistry*



BALTIMORE-3, MD.  
©TDCC

# Your Best Buy

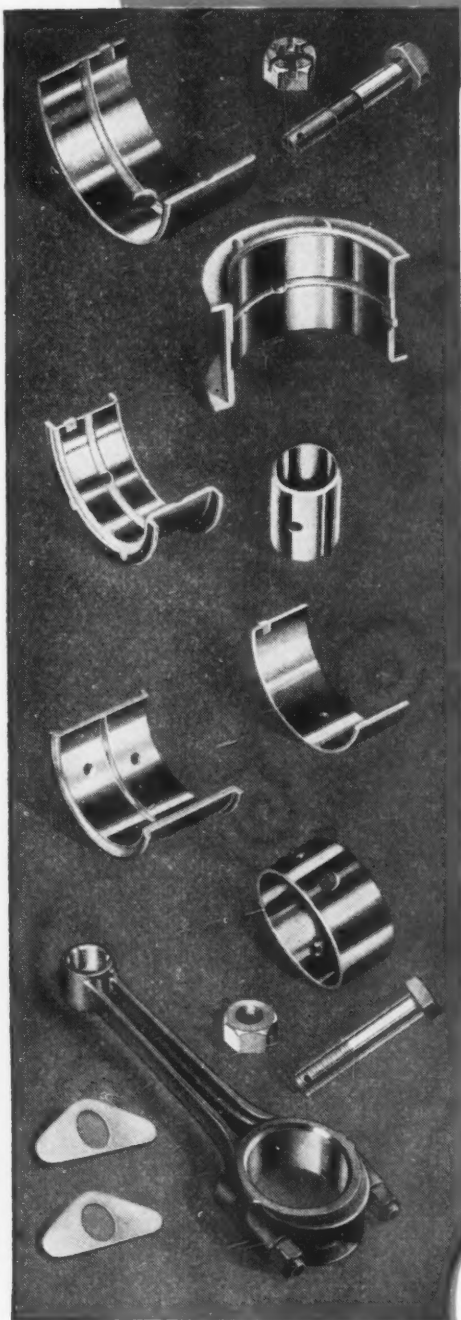
**HERE'S WHY:** The Brown Deer hydraulic jack is the greatest performer you've ever seen! Lifts full capacity from bottom position to full height of 20 inches. As load is raised, dual power unit reduces speed to keep handle action easy and even. New type overload safety valve holds excessive load in safe position and prevents damage to the jack. Slight twist of the handle, at any operating angle, regulates release of load smoothly — and as slowly as desired. Excellent for positioning transmissions. Jack is light in weight, easy to carry. Handle is instantly detachable. Jack fits into any car or service motorcycle. These and over a dozen more features make the Brown Deer jack your best buy. Ask your jobber for full particulars or write to Brown Deer Manufacturing Co., Milwaukee 14, Wis.



## LEADS THE FIELD IN ENGINEERING

*When writing to advertisers please mention Motor Age*

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YOUR BEARING NEEDS!**



*The Complete Line —  
Almost 7,000 numbers:*

Engine Bearings • Bushings •  
Connecting Rod Exchange • Re-  
conditioned Connecting Rods •  
Rebabbitted Connecting Rods •  
Connecting Rod Bolts and Nuts  
• Bearing Metals • Laminated  
Shims • Solders,

*Ask Your  
Federal-Mogul Jobber*



There's a saying experienced maintenance men use when talking about unusual or hard-to-get service bearings: "If you can't get it from Federal-Mogul, you can't get it anywhere." It was true ten years ago and it's true today . . . that's why we maintain the 100% complete line of almost SEVEN THOUSAND numbers!

All of our bearings are manufactured under strict quality control in our own six modern plants and they are readily available through jobbers everywhere—including bearings for those old-timers that go 'way back! You need make just ONE CALL for ALL of your bearing needs—popular numbers, current models and the seldom called-for numbers—ask your Federal-Mogul jobber!

**FEDERAL-MOGUL SERVICE, COLDWATER, MICHIGAN**  
DIVISION OF FEDERAL-MOGUL CORPORATION

*When Performance Goes up in Smoke*

**Replace in Sets with Genuine  
FEDERAL-MOGUL  
Oil-Control Bearings**





# New Britain

## remembers the tools you might forget!

These special tools are turned out by New Britain with the same care and skill lavished on the more familiar items in this famous line. Their presence in the well-rounded tool collection spells the difference between a job done—and a job done with real e-a-s-e! Make them part of your equipment...**TODAY!** The New Britain Machine Co., New Britain, Conn.



**RATCHET**—The mechanic's good right arm...made by New Britain in bulk-reducing Oval Design. Smaller head reaches right to the heart of the work! This Ratchet engages two pawls instead of the usual one for double power! Reverses with simple twist of plastic knob. 3/4", 1/2", 3/8" and 1/4" drives.

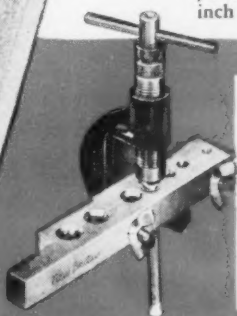
**EXTENSIONS**—Made in the New Britain tradition of Greater Strength—Better Fit, these auxiliary Drive Parts add long-armed dexterity to many a Tool combination. For reach and turning in hard-to-get-at places. Available in 3/4", 1/2" and 3/8" drives.



**IGNITION PLIERS**—A Mighty Midget in grip and usefulness. Exclusive New Britain design insures a solid hold on the smallest nuts, while five-inch length is just right for getting close to awkward ignition jobs. Has three adjustments with a half-inch range.



**FLEX SOCKETS**—These handy 3/8" Drive Sockets are made by New Britain with those around-the-corner, out-of-the-way jobs in mind. Tough universal joint. Seven standard size openings.



**FLARING TOOL**—Carefully designed by New Britain for fast, accurate work. An amazingly compact Flaring Tool, made to take 7 sizes of tubing! ... 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2".

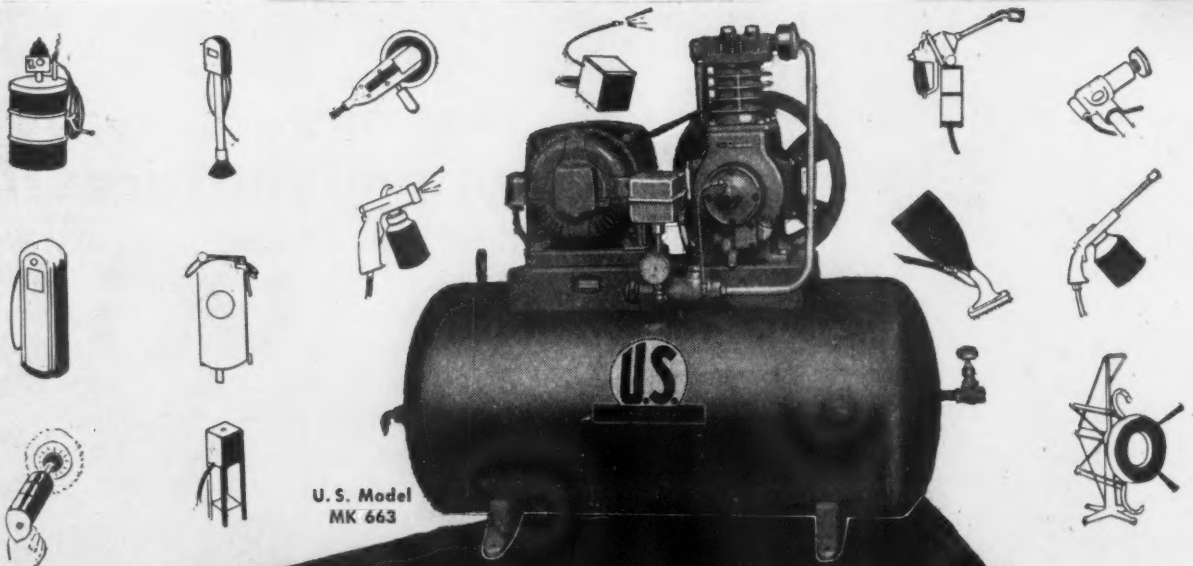


**SQUARE SHANK SCREW DRIVER**—Call on this big fellow for all the turning pressure that's needed. The big, tool steel blade will never turn in its amber handle. And the square shape permits the use of a wrench or pliers for extra leverage!

# New Britain

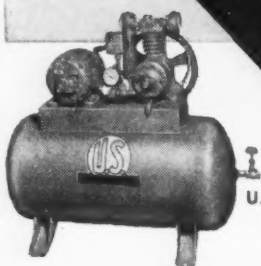


**GREATER STRENGTH • BETTER FIT. HAND TOOLS**

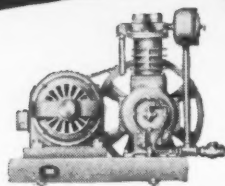


U. S. Model  
MK 663

*Get all* the air you need  
**WHEN YOU NEED IT**  
**WITH** **U.S.**

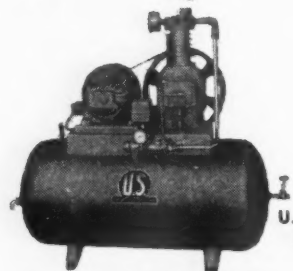


U. S. Model  
LA 338

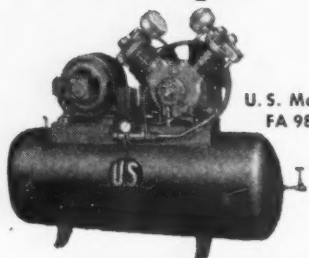


MK Series Base-Mounted Unit

## COMPRESSORS



U. S. Model  
BA 663



U. S. Model  
FA 983

**NO MATTER** • how large or small your air requirements • how many departments you have added • if you're just starting in business • re-organizing an established operation • U. S. has the air compressors to fit your exact needs.

Select from 30 different U. S. models—from ½ HP to 5 HP and from 2.6 CFM to 23.5 CFM—vertical or horizontal tanks.

There are U. S. base-mounted units that will hook up with your present compressor to double your air supply without doubling your investment.

If you've added lifts, hammers, cleaners, testers, tire tools, sanders, polishers, car washers or other air-operated equipment recently, it will pay you to take an inventory of your air needs today. Your jobber can help you analyze your requirements—and fit your needs exactly from the U. S. line of air compressors.

Send for booklet: "How to Select an Air Compressor".



**THE UNITED STATES AIR COMPRESSOR COMPANY**


5300 HARVARD AVENUE

CLEVELAND 5, OHIO

AIR COMPRESSORS • HYDRAULIC LIFTS • LUBRICATING EQUIPMENT • PNEUMATIC ACCESSORIES

# IMPORTANT and TIMELY MESSAGE

TO EVERY INDEPENDENT AUTOMOTIVE REPAIR SHOP,  
DEALER, GARAGE, SERVICE STATION, FILLING STATION



- Your market is every car owner in your section . . . every car, truck and bus owner that comes into your place. By handling nationally advertised brands of replacement parts, manufactured by independent producers, you can logically solicit and secure the business of owners of *all* types of cars, trucks and buses—the owners of motor vehicles who are your logical prospects.

- Crescent Wiry Joe offers you an independent line built by the largest independent wire mill in the world specializing in automotive wire and cable.

- Crescent Wiry Joe—a *complete* line of automotive wire and cable—is engineered by specialists in the manufacture of automotive wire and cable specifically for the entire field of the automotive replacement market.

**THE CRESCENT COMPANY, Inc.**



When next in our neighborhood, drop in—see how Crescent Wiry Joe automotive cable is made from copper to finished product in one plant under one roof.



# JOB-PACKAGED CORK GASKETS

## speed repair work

Now you can get the cork gaskets you need for a given job all in one package—the new Armstrong-Victor “Job Package.” These new “Job Packages” end hunting through stock to collect separate gaskets. They prevent the job delays that happen when a needed gasket is overlooked.

Armstrong-Victor “Job Packages” are available for all popular makes of cars, busses, trucks, and tractors. Every gasket meets the manufacturer's original equipment specification. And these new “Job Packages” are wax-lined to keep the gaskets fresh and flexible.

Order Armstrong-Victor Cork Gaskets in the new “Job Packages” today. Your jobber can fill your needs quickly. See for yourself why it pays to say “Armstrong-Victor” when you buy cork composition gaskets.



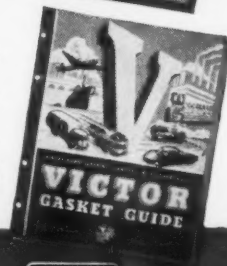
LOOK FOR THE TWO NOTCHES

Exclusive Armstrong-Victor Replacement Gasket Trade-Mark

#### VICTOR GASKET GUIDE

Victor publishes the most comprehensive Gasket Guide compiled—contains:

1. Factory numbers with Victor numbers.
  2. Special indexing where there are numerous motor models.
  3. Markings to show gasket set contents.
  4. Up-to-date gasket popularity ratings.
- Victor Manufacturing and Gasket Company.  
5750 Roosevelt Road, Chicago 90, Illinois.



# Armstrong-Victor



CORK COMPOSITION GASKETS - CORK SHEETS

# Here's Your Formula For More Profitable Business in 1948!

**YOU** + **TOLEDO DISTRIBUTOR** + **TOLEDO LINE** = **SUCCESS**

**OLD FRIENDS ARE YOUR BEST FRIENDS...**

Wise repairmen all over America count on their Toledo Distributor to help build their business. They know he supplies them with Genuine Toledo Parts—none finer in all the world. But more than this, they know he's interested in *them*—in increasing *their* profits. A profitable shop is the Toledo Distributor's best customer.

Your Toledo Distributor does no retail repair work of any kind. He's never your competitor. His many services are yours because he wants to help *you* do a better job, get more customers in *your* shop.

Check these services offered by your Toledo Distributor. See how they can help you make more

money this year. First of all, your Toledo Distributor extends you friendly credit. Then, too, he carries a *complete* line of highest-quality parts for *all* makes of cars. He provides a modern machine shop for your "out-of-shop" work. He offers you technical help on your "tough" jobs. He gives you business tips—advises you on successful merchandising programs. And he offers you all this service in one convenient place, under one roof.

Get to know your Toledo Distributor. Depend on him for the replacement parts you need . . . use his help to make 1948 the most profitable year you've ever had! We suggest you call him today.

**The TOLEDO**  
**STEEL PRODUCTS COMPANY**  
TOLEDO, OHIO, U. S. A.

Since 1906—Makers of Fine Automotive Parts



# SPINNING GLOBE-UNION POWER

*Globe-Union  
Batteries  
Start the  
World's Motors*

**GLOBE-UNION INC.**  
MILWAUKEE, WIS.

ATLANTA • DALLAS • PHILADELPHIA  
BOSTON • LOS ANGELES • OREGON CITY  
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*Full-Spark*

**"THE POWER PLUG"**

*Finer Performance Four Ways:*

- 1 Quicker starting
- 2 Faster pickup
- 3 Full power from every ounce of fuel.
- 4 Heatrol insulator assures better motor operation.

The Only plug with Dura-D gap  
for a Hotter Spark — Less Wear



# buy your heaters from HEATER HEADQUARTERS



## FOR FORD AND MERCURY CARS AND FORD TRUCKS (FM FORD)

This one model fits all three . . . helps cut down inventory. Easily installed on all latest models.



## FOR GENERAL MOTORS CARS (GM-100A)

An eleven-segment motor gives greater performance for heating, defrosting and foot warming. Beautiful finish harmonizes with color scheme of dashboard.



## FOR CHRYSLER MOTORS CARS (C-805)

The Super Power Heater is custom built like all the other E. A. heaters for easy installation in knockouts on the interior side of the dash in the latest Chrysler-built cars.



...you'll get a

**BETTER HEATER**

**BETTER DEAL**

**BETTER PROFIT**

E. A. Laboratories manufactures a full line of custom built heaters for easy installation in Ford, Chrysler, General Motors and other cars—so whatever make or model car you sell, E. A. has the right heater for you. The heaters shown here are three leaders.

### E. A. LABORATORIES, INC.

Brooklyn 5, New York  
El Monte, California • Chicago, Illinois

Made by E. A. — the leader since 1904 in the automotive accessory field.



"You can recommend them with  
**Confidence**"



**Titeflex**

**All-Metal Fuel Lines**

When you replace worn-out gas lines and oil lines with TITEFLEX you automatically insure customer satisfaction. For TITEFLEX lines are constructed entirely of metal and therefore cannot crack, rot, or deteriorate in any way. Yet TITEFLEX lines are fully flexible and are easily installed.

TITEFLEX all-metal flexible oil and gas lines are supplied in sizes to fit practically all standard makes of cars—both old and new models—and are packaged in Pliofilm for extra protection. Treat your customers to the best—replace with TITEFLEX. Write today for our new automotive catalog showing list prices and special stock deals.

**Titeflex, Inc.**

506 Frelinghuysen Ave., Newark 5, N. J.

Exclusive Manufacturers of Titeflex high quality products for more than 30 years

Sales Offices } CHICAGO CLEVELAND DETROIT PHILADELPHIA  
LOS ANGELES BOSTON SAN FRANCISCO TORONTO

## Servicing The Willys Station Wagon Transmission

(Continued from page 65)

circuit through circuit "B", the current grounding in the solenoid through the points shown in series with this circuit. Grounding the coil causes the engine to miss, relieving the driving torque on the solenoid pawl and the pawl retracts, returning the transmission to conventional drive. As soon as the solenoid retracts, the points in the solenoid in series with circuit "B" open, breaking circuit "B" and the grounding of the coil primary and the engine resumes normal operation.

The only service adjustment that Willys recommends on the overdrive electrical units is on the kickdown switch. This adjustment is merely the positioning of the switch at the toe board so that, with the carburetor throttle wide open (but not beyond this point) there should be .005 in. clearance between the underside of the accelerator pedal and the plunger of the switch. This adjustment is made by two nuts, one on each side of the toe board.

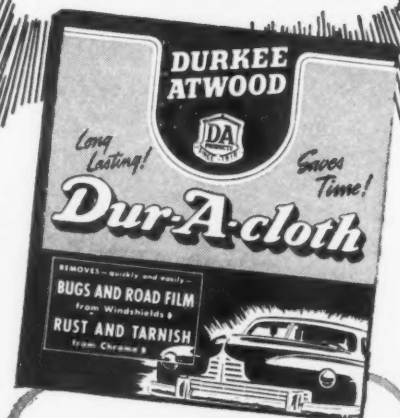
The first step in removing the overdrive transmission assembly is to fold back the floor mat and remove the clutch inspection plates in the floor and in the fly-wheel bell housing. The car is then jacked up.

A jack is placed under the bell housing and raised tight against it. The frame cross member, which supports the rear of the engine and the transmission is removed with a 9/16 in. socket. The support assembly is also removed from the bottom of the transmission. The clutch release rod is then removed from the release fork and swung up out of the way.

The wires are removed from the solenoid, being careful to identify them so that they can be replaced on the correct terminals. The overdrive shift cable is disconnected at the overdrive bell crank and the speedometer cable is disconnected.

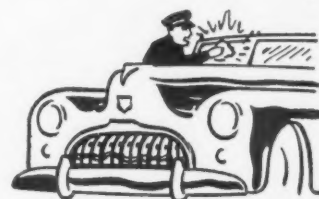
(Continued on page 142)

# Dur-A-cloth IS BACK!



THE FAMOUS LONG LASTING  
TREATED CLOTH THAT REMOVES  
BUGS, RUST, TARNISH, STAINS

**NOW AVAILABLE**



**Removes** bugs without dissolving them. Leaves windshields sparkling clean.



**Restores** chrome to new beauty. Takes off rust, stains, tarnish—quickly and safely.

Ask your supplier or write direct.

**DURKEE-ATWOOD**

**Dur-A-cloth**

**DURKEE-ATWOOD CO.**  
MINNEAPOLIS 13, MINNESOTA

# Chrysler's

## *startling parts and service advertisement*



*We aim to take care of our own ...*

the way any proud parent does. We see to it that Chrysler service for your beautiful Chrysler becomes one of the real satisfactions in owning one. Wherever you live, you're pretty sure to find that your Chrysler dealer stands out for his service facilities. He knows good men to take as much pride in servicing your car as we do in building it. And wherever you are, whatever you need, you can get a perfect replacement part, factory engineered and tested, for your Chrysler at the Chrysler dealer's under the trade name Mopar. After all, as we see it, when you buy a Chrysler you're entitled to a car that stays, next as exciting and wonderful as the day you bought her.



*the Beautiful Chrysler*

FOR BETTER SERVICE, TAKE YOUR CAR TO YOUR CHRYSLER-PLYMOUTH DEALER

## *a 4-color, center spread appearing in national magazines*



# Shim stock ...

## IN HANDY DISPENSING CARTONS

Easy and convenient to handle and use are these cartons of shim stock that have been specially designed to save you time and temper. The paper-thin material is protected from damage in handling that results in wasted stock.

**ECONOMY CARTON.** Four rolls, brass or steel: .001, .002, .003 and .005. Each roll 6 x 50 inches ... 1200 square inches of precision shim stock. Shim material is pulled through slots in carton and snapped. No miking. And, the rest of the roll remains in the carton instantly ready when needed.

These cartons can be set on the bench, stored compactly in bins or drawers, or hung on the wall. Always handy.

All Laminated Shim Company packaged shim stock is handled by established auto and industrial supply distributors.



3033

**LAMINATED SHIM COMPANY**  
INCORPORATED  
GLENBROOK CONNECTICUT

Supco Sam says:

**THEIR RECORD  
SPEAKS FOR  
ITSELF**



*Backed by an* **UNBEATABLE  
RECORD of PERFORMANCE**



*The "Quality" Line*

**BRAKE PARTS · BRAKE FLUID · BRAKE CABLES · BRAKE TOOLS**

Whether your job is a master cylinder overhaul or a brake fluid refill you can be sure of satisfactory results when it is backed by the Supco trade mark—the symbol of an unbeatable performance record for more than 16 years.

**SUPCO PRODUCTS CORP.**

123 W. 64th St.

New York

## Servicing The Willys Station Wagon Transmission

(Continued from page 140)

The wire at the left rear of the overdrive housing is disconnected. Only the wire from the kickdown switch to the overdrive switch should be disconnected. It is not necessary to disconnect the wire from the switch to the governor.

The universal joint is disconnected at the companion flange and the propeller shaft is laid over the frame cross member, out of the way. The motor can then be jacked up to allow removal of the overdrive support (chain strap) at the rear of the housing. The two bolts can be removed with a 9/16 in. wrench.

Before the bolts that connect the transmission to the bell housing are removed, three pilot studs should be made up. Cylinder head studs can be used, cutting off the fine thread end and leaving studs 2 3/16 in. long—or any 7/16 in. stud or bolt (with head removed) having 14 threads per inch.

Then, as the transmission-to-bell-housing bolts are removed, they are replaced with the pilot studs, 2 studs on top and 1 on the bottom. The assembly is slid back (on the studs) about an inch. This will permit release of the clutch lever, which can be removed through the bell housing inspection hole. The assembly is then slid back until the main drive gear (clutch shaft) is free of the clutch hub. The front of the assembly is lowered and removed.



# 7,500 GASKETS

...at your finger tips!

in FEL-PRO's new **FREE** catalog



for **FAST REFERENCE, EASY READING** — the Gasket **PICTURE-STORY**

**H**ERE is a handy, complete catalog of gaskets you can use now in your shop—a catalog that's really easy to work with. And you can find what you want quickly, the first time you look—whether it's a black, steel or copper head gasket for a popular current model car or a carburetor gasket for a 1924 Essex 6—in this new Fel-Pro Master Gasket Catalog.

Fel-Pro's fat new 166-page catalog contains some 7,500 listings—and many gaskets are pictured for quick identification. Year dates, model numbers and engine sizes are given under each manufacturer. A new numbering system makes gasket identification easier. Also shown are sheet cork, felt, asbestos, Felpak, Karropak and other materials for your own gasket cutting.

More and more Fel-Pro gaskets, backed with 30 years of gasket-making "know-how" and designed for long-time job protection service, are being used as original equipment on cars, trucks, tractors and engines. Car builders know their quality. In the replacement field, avoid costly comebacks—seal lasting customer friendships with tight sealing Fel-Pro gaskets.

**FELT PRODUCTS MANUFACTURING CO.**



Mail this Coupon today  
for your **FREE** catalog

**FELT PRODUCTS MANUFACTURING CO.**  
1521 Carroll Avenue, Chicago 7, Ill.

Gentlemen:

Please send me, postpaid and without obligation,  
your new Master Gasket Catalog.

Name

Address

City  State

**FEL-PRO** gaskets now come in a new package. Large labels on top and bottom list complete contents with individual gasket numbers. Car model and year, with gasket complete-set number, appear on extreme end edges for quick identification.

R-2694

## Another "Perfect" Hit! VALVE PACKING MERCHANDISER



*An active sales  
builder in De Luxe  
Cabinet form.*

At right—Rear view, showing  
arrangement of stock. Cabinet  
may also be used for other  
stock.



**Y**OU will be proud to give this smart 2-color merchandiser a prominent place in your establishment — and highly gratified by the returns it brings you in hard, cold cash profits!

These cabinets are designed for fast selling as well as high eye appeal and space saving. Each cabinet contains an assortment of 308 Valve Packings (12 numbers) to service all passenger cars, most trucks and buses on the road today.

Boxes marked in bold type for quick spotting.

Write today—or see your jobber.

**PERFECT PARTS, Inc.**

55 Amsterdam Avenue  
New York 23, N. Y.

## A honed brake cylinder deserves an OVERSIZE Piston

**EIS** pistons are available in .005 and .010 oversizes. (.015 and .020 for factory type rebuilt jobs.)

Clearance between cylinder and piston should be .001". Greater space scuffs cups and shortens their life, especially under high pressure. Hence, why not use the right size piston in honed cylinders?

EIS CUPS are made to take care of oversize bores. When used in standard cylinders you are assured of an absolutely satisfactory job.

Ask us to give you the name of the nearest jobber who can serve you.

**THE EIS AUTOMOTIVE CORP.**  
Middletown, Conn.



## Plans for the 1948 ASI Show Have Started to Roll

*(Continued from page 52)*

show is composed of four members from each of the sponsoring associations. Chairman of the 1948 committee is W. F. Wilkerson, Wyoming Automotive Co., Casper, Wyo. Vice-Chairman is B. G. Close, King Quality Products Co., St. Louis, Mo. and Committee members are as follows:

**Motor & Equipment Wholesalers Association**—W. F. Wilkerson; Hal Miller, Chicago Auto Parts Co., Chicago, Ill.; W. T. Mills, Auto Parts Co., St. Louis, Mo.; F. G. Stewart, Standard Automotive Sup. Co., Washington, D. C.

**Motor & Equipment Manufacturers Association**—B. G. Close; C. P. Brewster, K-D Mfg. Co., Lancaster, Pa.; J. M. Spangler, National Carbon Co., New York, N. Y.; S. B. Wilson, Fram Corp., Providence, R. I.

**National Standard Parts Association**—N. F. Kaplan, Penna. Rubber & Supply Co., Cleveland, O.; D. H. Teetor, Perfect Circle Co., Hagerstown, Ind.; G. R. Walker, Walker Mfg. Co., Racine, Wis.; A. E. Pouliot, National Bushing & Pts. Co., Minneapolis, Minn.

A. B. Coffman continues as show manager.

Committees set up by the JOC to handle various phases of the show are: Finance Committee: S. B. Wilson, chairman, J. M. Spangler, B. G. Close, Hal Miller. Credentials Committee: Frank Stewart, chairman, Hal Miller, C. P. Brewster, B. G. Close, A. E. Pouliot, D. H. Teetor. Space Contract Committee: B. G. Close, chairman, D. H. Teetor, G. R. Walker, N. F. Kaplan, Hal Miller, W. T. Mills. Publicity Chairman, Gordon H. Walker.

Just as last year, Show Publicity and Show Decorations will be handled by the Automotive Advertisers Council. They will work in cooperation with Gordon Walker, Chairman of the JOC Publicity Committee. R. E. Conley, R. M. Hollingshead

*(Continued on page 146)*



# Dependability is important!

The consistently *dependable performance* of Ditz-Lac Lacquers and Ditzco Enamels is the chief reason why Ditzler has grown to be the largest *exclusive* producer of automotive finishes. They must be good to be so widely used by the motor car industry. As a result of this unequalled acceptance and experience, Ditzler is best qualified to supply high quality products for refinishing automotive equipment.



## **DITZLER Two-Star★★ Polish Cleans and Polishes in One Operation!**

**Ditzler Two-Star★★ Polish** is designed to prolong the life of automotive finishes and continue their beautiful appearance. It is free of scratching abrasives, discoloring chemicals and grit-catching waxes. In one operation it polishes and cleans quickly and thoroughly. Use it on both lacquer and enamel finishes. It's safe for any car.

**DITZLER COLOR DIVISION  
PITTSBURGH PLATE GLASS COMPANY  
DETROIT 4, MICHIGAN**



# DITZLER

DEPENDABLE SINCE 1902

## AUTOPULSE ELECTRIC FUEL PUMP

- Used in any car or truck
- No vapor lock
- Instant starting
- No stalling in traffic
- Greater fuel economy
- Added protection



AUTOPULSE CORP., LUDINGTON, MICH.

## The **VAN** LINE NEW WATER PUMPS

- Announcing a complete line of 28 NEW Water Pumps, duplicating original equipment, for all popular cars.



VAN Parts are sold thru leading Jobbers. If your Jobber can't supply you, write and give us his name.

**VAN BERGEN & GREENER, INC.**  
1619 N. Hayne Ave., Chicago 47, Ill.

356 Venable N. W.  
ATLANTA

2727 Oak St.  
KANSAS CITY

2306 N. 15th St.  
PHILADELPHIA

## Gear Pullers

**GARAGE TOOLS**

CARBON SCRAPER  
CREEPER CASTERS  
BUSHING REMOVERS  
REAMERS

**Cal-Van**  
MACHINE PRODUCTS INC.

★ Write for Catalog

## CAMPBELL

Lug Reinforced  
**TIRE CHAINS**

THE CHAIN WITH THE SAW-TOOTH GRIP

U.S. Pat. No. 2,093,547 — Canadian Pat. No. 223,568

**INTERNATIONAL CHAIN & MFG. COMPANY**  
YORK, PENNSYLVANIA

## DUNK 'EM IN GUNK H-S

COMPLETE DECARBONIZING  
PROCESS  
IN PACKAGE FORM

IMMEDIATE DELIVERY  
1 GALLON OR A  
TANK CAR

CURRAN CORP. LAWRENCE, MASS.

## Plans for 1948 ASI Show Have Started to Roll

(Continued from page 144)

Corp., chairman of the 1947 A.S.I. Publicity Committee, will again serve in the same capacity, as will other members of the 1947 committee from the AAC until a new committee is either appointed or the old committee is retained with certain additions at the Advertising Council's spring meeting in May.

This year space drawings will be held over a two-day period, June 30-July 1. Classifications of drawings will be as follows:

### June 30th

- 1st drawing — Firms exhibiting 12 years or more
- 2nd drawing — Firms exhibiting 10 or 11 years
- 3rd drawing — Firms exhibiting 7, 8 or 9 years
- 4th drawing — Firms exhibiting 5 or 6 years

### July 1st

- 5th drawing — Firms exhibiting 3 or 4 years
- 6th drawing — Firms exhibiting 1 or 2 years
- 7th drawing — Firms exhibiting for the first time and space applications reaching the show manager after deadline date.

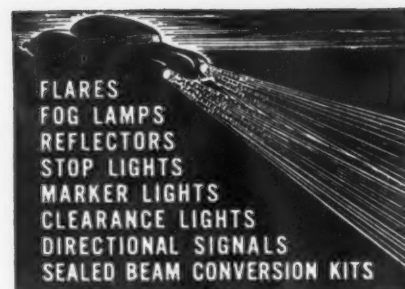
## CORRECTION

In the Pop O'Neill story in our February issue, Tommy makes a mistake. On page 47 Tommy cleans out the breather port in the master cylinder by shoving a paper clip through it. Mr. E. I. Schwarz of the EIS Automotive Corp. has proved that a paper clip is about 2½ times larger than the hole should be. The stiffest wire that could safely be used would be a very thin tag wire.

## Classified Advertisements

Delco and Westinghouse light plant parts. Buy from manufacturer. Free catalog. Republic Electric, Davenport, Iowa.

Business Opportunity — Active and Profitable Wholesale Auto Parts Business, located in Maryland, doing a large volume for sale. Many popular lines carried. Exceptional opportunity for quick buyer. Box 20, Motor Age, 5601 Chestnut Street, Philadelphia 39, Pa.



**ARROW SAFETY DEVICE CO.**  
MOUNT HOLLY, N. J.

## LIFETIME

*Guaranteed*

**International Parts  
Mufflers**

INTERNATIONAL PARTS CORP., CHICAGO 5, ILL.  
INTERNATIONAL PARTS (CANADA) LTD., TORONTO

## MILEY BLACK GOLD Metallized BRAKE LININGS

are guaranteed not  
to score brake drums

**L. J. MILEY COMPANY**  
18 S. Sangamon St., Chicago 7

## • RUGER • Hydraulic FLOOR CRANES and Arbor Presses

**RUGER EQUIPMENT CO., Inc.**

2425 St. Clair Ave. P. O. Box 3821  
Cleveland 14, Ohio Portland 8, Ore.

## THE ANDREWS LINE . . .

Your Best Electrical Connection

CUSTOMER SATISFACTION SINCE 1921

**Andrews**  
MANUFACTURING CO.  
ST. LOUIS, MO.



IT PAYS TO SELL THE BEST KNOWN NAME

# WAGNER ADS in POST and Collier's build business for YOU!

The foremost brake service line leads in powerful national promotion. Millions of car and truck owners are reminded that Wagner products mean SAFETY. There's good advice for motorists in the half-page ad shown at right in miniature . . . and here's profitable advice for service outlets:

Let Wagner national advertising work for you. Tie in by stocking *all three*—WAGNER Lockheed Brake Fluid . . . WAGNER Lockheed Brake Parts . . . WAGNER CoMaX Brake Lining. A small stock is all that's necessary to profit by this national program and the famous Wagner name. See your Wagner jobber now, or write to:

**Wagner Electric Corporation**  
6498 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.

EVERY  
REPAIRMAN NEEDS  
BULLETINS HU-17G and HU-197  
Tips for better Brake Service—  
free on request

TIE IN NOW  
with this NATIONAL  
ADVERTISING



*For Safety's Sake..*

have your automobile brake system checked regularly  
... and when service is required, insist upon

## WAGNER LOCKHEED HYDRAULIC BRAKE PARTS and FLUID

Sudden emergencies call for fast, sure stops. Stay on the safe side by asking your serviceman to check the level of the fluid in the brake system of your car today!

If fluid is required—it pays to specify WAGNER LOCKHEED No. 21 HYDRAULIC BRAKE FLUID.

No. 21 is an all-season fluid, functions under all driving temperatures. Used by car manufacturers, and recommended for all cars and trucks having hydraulic brakes.

In addition, ask your serviceman to check your car's brake system. If any parts need replacement, specify WAGNER LOCKHEED HYDRAULIC BRAKE PARTS. When brakes need relining, insist upon WAGNER CoMaX BRAKE LINING for quick, safe, smooth stops. Minor repairs today may save you major service expense tomorrow. Wagner Electric Corporation, 6400 Plymouth Ave., St. Louis 14, Mo., U.S.A. (In Canada: Wagner Brake Company Limited, Toronto).

BRAKE FLUID SHOULD BE  
CHECKED TWICE EACH YEAR



# Wagner

WAGNER HYDRAULIC BRAKE PARTS and FLUID . . . WAGNER LOCKHEED BRAKE LINING . . .  
AND BRAKES . . . SACHS BRAKES . . . SACHS BRAKES . . . SACHS BRAKES . . . SACHS BRAKES



## YOURS for the asking

### ... this comprehensive report of Automotive Replacement Parts and their 1948 Prices.

We present to the industry an analysis of present day interchangeability and questionable prices. Our investigation and research produced startling discoveries! It's a 20 page book grouping facts, figures and buying information that will help YOU increase your profits in the future!

Suppose  
You  
Information!

Send today for  
your Free Copy

TO AID YOUR 1948 PLANNING  
USE THIS VALUABLE BOOK

Write or wire for your copy... no obligation



## AUTOMOTIVE RESEARCH PUBLICATIONS, Inc.

Dept. MA38

Islip, New York

### When in DETROIT

Stop at Hotel Wolverine. Centrally located on Elizabeth Street, a block east of Woodward, overlooking Grand Circus Park. Five hundred rooms, each with tub and shower. Good food. Ample parking space—garage service. Home of THE TROPICS, most unusual night spot in Detroit.



### HOTEL WOLVERINE

"The Goodwill Hotel"

RATES FROM  
\$2.75 SINGLE • \$4 DOUBLE



**SUPERBENCHES • SUPERSOCKETS**

J. H. Williams & Co., Buffalo 7, N. Y.  
"The Wrench People"

## 1948 Indianapolis Race To Be Run May 31st

(Continued from page 52)

and affiliated stations. The Perfect Circle Corporation of Hagerstown, Ind., will be the sponsor for the third straight year, and again they have dedicated the race broadcast to the "Doctor of Motors."

According to the "experts" and the Speedway officials, everything points to a clean sweep of all existing records because all of the fast cars of last year and eight or more new cars should be in the starting field. It is believed that each of the 33 starters will have to do 122 MPH or better in the time trials to qualify. Time trials will start Saturday, May 15, with the fast cars shooting at the one-lap and 10-mile qualifying records of 134.499 MPH, respectively.

A Chevrolet will be the pace car this year and lead the field at the flying start on the morning of May 31, when the fastest cars in the world begin a 500-mile grind requiring the greatest in skill and workmanship.

There will be four separate but coordinated programs at various stages of the race. Headed by Bill Slater, the MBS staff will devote 30 minutes to the start of "the long grind, coming on the air at 9:45 a.m.

## W. S. James Joins Fram Corp. As Vice President

William S. James, Director of Research of the Ford Motor Company since 1945, was elected Vice-President in Charge of Engineering of the Farm Corporation, manufacturers of oil, gasoline and air filters, at a meeting of the Board of Directors in Providence today.

Mr. James, a Past President of the Society of Automotive Engineers and engineer in charge of the developing of the Amphibious Weasel for the Army during the War, resigned from Ford last month and will take up his new duties immediately.

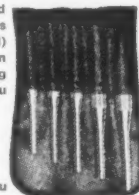
President Steven B. Wilson announced that Mr. James will direct Fram's Research and Development Laboratories.

## QUALITY TOOLS REASONABLY PRICED

Mac has a full line of punches including pin, center, machine, and drift punches. All "Mac" punches are Hand Forged (Bradley Hammered) from a special alloy steel which in our experience make them among the best and toughest tools you can buy regardless of price.



Let your "Mac" distributor serve you  
Catalog mailed on request



THE MECHANIC'S TOOL & FORCE CO.  
Sabina, Ohio



## DEVILBISS

Spray-Painting Equipment —  
Spray Booths — Exhaust Fans  
— Air Compressors — Hose and  
Hose Connections — Oil Guns.

See your authorized DeVilbiss distributor

THE DEVILBISS COMPANY  
Toledo 1, Ohio

You Can Rely On

## FRENCHTOWN INSULATORS

Used by more spark plug  
manufacturers than any other.

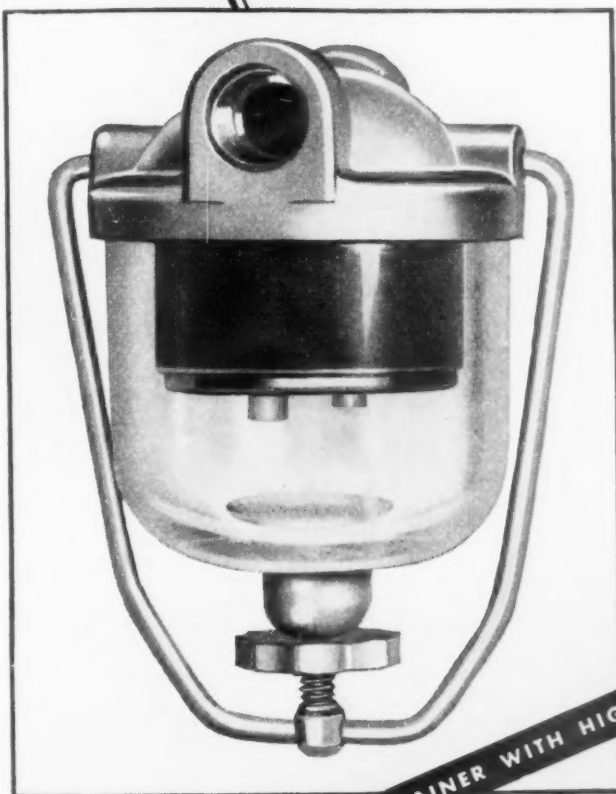
FRENCHTOWN PORCELAIN CO.  
81 Muirhead Ave., Trenton, N. J.  
(Factory: Frenchtown, N. J.)

PERFORMANCE

PROTECTION

MOTORISTS NEED . . .

PROFITS YOU CAN USE



AC GASOLINE STRAINER WITH HIGH-EFFICIENCY ELEMENT

Here is the only Gasoline Strainer with the high-efficiency "Fiberite" Element . . . 100% non-abrasive, waterproof, acidproof and rustproof. It enables you to sell real performance protection.

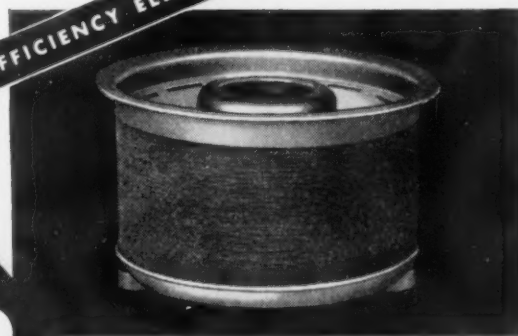
The AC Gasoline Strainer prevents engine failure. It keeps gasoline clean and so prolongs the life of carburetor jets, needle valves and valve seats. It filters out dirt, lint, abrasives and water. It preserves easy starting and peak carburetor performance. It is easily installed.

And here's how easily you can cover the market:

➤ 7 Complete Gasoline Strainer packages (containing all necessary fittings) cover all passenger car and light truck installations.

➤ 1 Additional Strainer package (containing all but special fittings) covers all other engine installations.

Sell this performance protection for extra profits. It has the added advantage of repeat business in Replacement Elements which are individually packaged for this purpose.

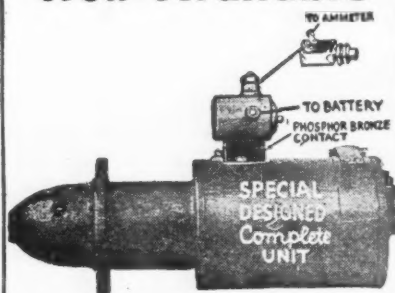


*Gasoline*

**STRAINERS**

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

## Now Available



**Universal Change-Over SOLENOID STARTER UNIT**  
Designed and built for durable service and performance. Every Chevrolet and Plymouth owner needs this unit. Fits all cars with regular Bendix Starter.



**At All Good Jobbers**

Mfd. & Dist. by

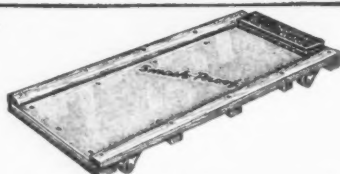
**AUTOMOTIVE MAN'G. Co., Inc.**  
879 W. FULTON ST. CHICAGO 8, ILL.

WOLF'S HEAD  
IS 3 STEPS AHEAD  
**WOLF'S HEAD**  
MOTOR OIL AND LUBES  
100% PURE PENNSYLVANIA  
P.G.C.O.A. Permit No. 6

for **SAFETY**  
REFLECTORS • LAMPS • FLARES



GROTE Manufacturing Company, Inc. Bellevue, Ky.  
Automotive Sales Office: Moorestown, N. J.



**Smash-Proof CREEPERS**

Sold by all leading jobbers  
**HULBERT MANUFACTURING CO.**  
Ashtabula, O.

## Driving Comfort Further Increased in 1948 GMCs

(Continued from page 53)

more space for packages in panel delivery types. In addition, these two improvements are said to make for easier, quicker, surer parking and starting on level or on hills and to step up driver efficiency in stop-and-go delivery by allowing easier exit and entrance from either side. Driver efficiency is further increased by the new Syncro-Mesh transmissions, which are designed to permit fast, easy, clashless shifting—features particularly appreciated when hauling heavy loads in hilly regions.

The steering column gearshift through use of an "interlock" system enables the driver to feel at the lever that the gears are properly engaged. It also has stops to prevent overshifting and strategically mounted springs on the gearshift swivel to insure rattle-free operation under all conditions.

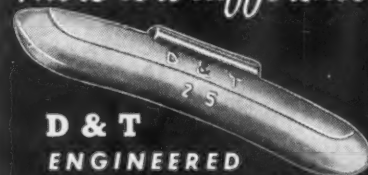
A foot pedal parking brake operates through a self-energizing lock, instead of a pawl and ratchet mechanism, and is released by the hand-pull mounted on the instrument panel.

The 3-speed Syncro-Mesh transmission has a longer case and improved lubrication features. The new 4-speed Syncro-Mesh transmission provides better lubrication than previous spur gear transmissions, more effective sealing, greater durability and easier shifting.

Shifting into reverse is simpler due to the replacement of the former latch mechanism with a coil spring operated by the shifter interlock plate. Shifter yokes are also more substantial, especially for reverse, with redesign eliminating the previous tendency to bend under a cantilever load, thereby reducing maintenance costs.

Other new features of the 4-speed Syncro-Mesh transmission include provision of a sediment chamber at the bottom of the transmission case to prevent chips being washed by the oil into the bearings.

*There is a difference*



**D & T ENGINEERED WHEEL WEIGHTS**  
**TURNER MFG. CO.**

Kokomo, Indiana



... For Faster and More Accurate  
**BATTERY TESTING**

**IMPERIAL "K"**

No. 515-T

**BATTERY HYDROMETER**

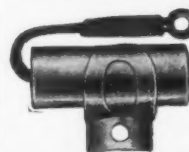
- ★ Thermometer Type
- ★ Shatterproof Glass Jar

**THE IMPERIAL BRASS MFG. CO.**  
1217 W. Harrison St. Chicago 7, Ill.

ORDER FROM YOUR JOBBER

**Shurhit**

**Triple Seal Moisture-Proof CONDENSERS**



Ask your Shurhit jobber or write us for details on these super-quality replacement parts. Complete Shurhit line includes Condensers, Contact Points, Rotors, Caps, Coils, Brushes, Cut-Outs, Switches, and Spark Plugs.

**SHURHIT PRODUCTS, INC.**  
Waukegan, Ill.



**USE PROVED IGNITION PARTS**

**QUALITY TELLS Demand WELLS**

**WELLS MFG. CORPORATION**  
FOND DU LAC, WIS.

**THE NEW Hyland HONE**

Saves Time • Low Price • Guaranteed



No. 10 — \$3.90

3/4" to 1"

No. 20 — \$3.90

1" to 1 1/2"

No. 30 — \$4.15

1 1/2" to 2"

No. 50 Set Services Brake Cylinders 3/4" to 2" \$11.95  
**HYLAND MANUFACTURING COMPANY**  
818 JOHN STREET PORTSMOUTH, OHIO



ANOTHER OF TEXTILENE'S  
REGULAR MONTHLY  
ADVERTISEMENTS  
IN THE

# Saturday Evening Post ➡

Now, regular monthly advertisements in the *Saturday Evening Post*, like the one shown here, are telling millions of Americans about the good-looking, long-lasting seat covers made of TEXTILENE SUNSURE fabrics.

Every advertisement shows the fabrics. Every advertisement shows the label and tells readers to look for that TEXTILENE SUNSURE label when buying.

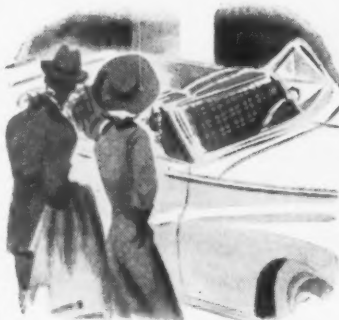
To sell more seat covers, tie in with this big advertising campaign that is revolutionizing the seat-cover business. If you don't now handle seat covers made of TEXTILENE SUNSURE fabrics, write us and we'll send you the names of 200 or more manufacturers who can supply you.

Specify TEXTILENE SUNSURE fabrics when you order. E. W. TWITCHELL, INC., Third & Somerset Streets, Philadelphia 33, Pa.

FIRST CHOICE FOR SEAT COVERS

vinyl-  
coated

*Textilene*  
*Sunsure*  
fabrics



TEXTILENE SUNSURE fibre fabrics are first choice with American motorists who buy seat covers. And they're first choice with firms that make seat covers.

There are good reasons for this long-established popularity. TEXTILENE SUNSURE fibre fabrics are good-looking and long-lasting. They come in dozens of patterns to match the color scheme of your car . . . new or old . . . and their colors stay fresh and bright (actually withstand 200 hours under the FADE-OMETER).

Made of kraftcord, TEXTILENE SUNSURE fabrics don't bulge or sag. They're smooth, easy to slide over, and positively cannot snag silk stockings.

A tough layer of vinyl copolymer resins makes it possible for you to wipe them clean with a damp cloth, and gives them added resistance to burning if a lighted cigarette drops on the seat.

Whatever make of seat cover you buy, the TEXTILENE SUNSURE label on the fabric is your guarantee of good hard service and of bright cheerful colors that laugh at the sun. Sold by leading automotive suppliers, car dealers, and department stores. E. W. TWITCHELL, INC., Third and Somerset Streets, Philadelphia 33, Pa.

\* Reg. U. S. Pat. Off.



• Twitchell makes twisted, folded, pressed, crushed, shaped, braided and woven paper products for industry.



# STACKHOUSE

Drill Saw Tool  
Attachment  
**\$18.00**



## An Indispensable Tool for Your Service & Body Shops

A great time and money saver for slitting bearings and bushings and for work on mufflers, heater installations, bolts and nut studs in hard-to-get-at places: For work on fenders, panels, door post bolts, rivets and frames.

Contact your supplier, or write direct.

**E. H. STACKHOUSE**

219 N. 63d St., Philadelphia 39, Pa.

CLUTCH FACINGS • RIVETS

HURRY! ALMOST HOME... THANK GOODNESS

WOW! HEH! HEH! THEY CAN'T FOOL ME. I KNOW CHARLOTTE HAS

**SOUTHERN**  
BRAKE LINING

FRICITION MATERIALS CO.-CHARLOTTE, N.C.

BRAKE SHIM STOCK • RELINING EQUIPMENT • CLUTCH FACINGS • RIVETS • BRAKE FLUID • HYDRAULIC BRAKE PARTS

Ask your Allen Jobber  
About the New Allen Course  
**"MODERN ENGINE  
TUNE-UP"**  
To be held in your locality  
**ALLEN ELECTRIC & EQUIPMENT CO.**  
2328 N. Pitcher St. • Kalamazoo, Mich.

## McDonough Co. Changes Address to Jacksonville

W. Bert McDonough Co., manufacturers' representative has opened offices in Jacksonville, Fla. at 1201 San Marco Blvd., South Jacksonville which will be operated as the main office of this company.

The company will be known in the future as W. Bert McDonough Co., Inc. Officers of the new corporation will be: Bert McDonough, President; Walt E. McDonough (Inactive) Vice-President; Willard H. Ihlefeld Secretary-Treasurer and Homer M. Wheeler, Ass't. Sec'y-Treas. and Office manager.

Under this new plan, Bert McDonough, who has operated the agency business in the southeast for better than twenty-five years, will supervise the main office in Jacksonville and travel and work with the salesmen in all territories covered.

## Romney Becomes Assistant To President of Nash

George Romney has resigned as managing director of the Automobile Manufacturers Association to become assistant to the president of Nash-Kelvinator Corporation, George W. Mason, company president, announced recently.

Romney's responsibilities as a Nash-Kelvinator executive will include both the automotive and electric appliance divisions. He has been associated with the Automobile Manufacturers Association for the past nine years.

He was named Detroit Manager of the Association in 1939 and elected managing director early in 1942. During World War II he also served as managing director of the Automotive Council for War Production formed to intensify industry-wide cooperation in expediting the output of armaments.

During the war he was one of the organizers of the Detroit Victory Council and served as an employer member of the Labor-Management Committee of the War Manpower Commission for the Detroit area.

## TRUCK COILS. by Mallory

Universal installation features—more energy, easier starting, water-proof and age-proof.

6 Volt . . . \$10.00 12 Volt . . . \$12.50

Condensers \$2.00

MALLORY ELECTRIC CORP.  
DETROIT 4, MICH.

## FOR AUTOMOTIVE PARTS AND SUPPLIES...

*Your NAPA Jobber is a Good Man to Know!*

**NAPA**  
Is the Largest Independent Organization in the Parts Industry

*Assurance of Quality*

**Genuine SERVICE**  
INDIANAPOLIS  
*"Measurably Better"*  
**SPRINGS**  
**SERVICE SPRING COMPANY**  
INDIANAPOLIS 6, INDIANA

Since 1897

UNITED STATES  
ELECTRICAL TOOLS

have never swerved from their original standards of **QUALITY AND SERVICE**

**THE UNITED STATES ELECTRICAL TOOL CO.**  
CINCINNATI, OHIO

**RESISTOFLEX**  
flexible  
**GASOLINE and OIL LINES**  
WITH COMPAR TUBE  
**RESISTOFLEX CORPORATION**  
Belleville 9, New Jersey  
PLANTS: BELLEVILLE, N. J.  
ELKHART, IND. TORONTO, CANADA

## ARE YOU STILL AN ACTIVE PARTNER...



### in this "7½ billion-a-year" success?

NEVER was there a partnership like the nation-wide brotherhood of volunteers who have helped sell, advertise, and promote U. S. Savings Bonds! Their program is the greatest sales operation at the lowest cost in history. Last year sales of Savings Bonds were 7½ billion dollars—*exceeding redemptions by over a billion dollars.*

Retailers merit a major share of the credit for this splendid achievement, for during 1946 retail stores donated 41.3% of all sponsored ads on E Bonds. Their work has been a powerful tool in building security for the nation at large and for millions of Bond-holders individually.

Now the important thing is to keep up the good work. Here are two ways: (1) Devote a generous portion of your advertising schedule to the "Buy Where You Bank" plan, explained in the box. (2) Build up your Payroll Savings Plan. No. 1 brings your store good-will. No. 2 brings a feeling of extra security to your employees, enables them to be happier, better workers. And *both* steps build future buying power—future security—for your store, your community, and your country. Every \$3 put into Savings Bonds pays \$4 at maturity.

#### *New plan broadens opportunity for regular Savings Bond buying*

BEGINNING in June the Treasury Department and the banks of America will make it possible for people *not* on the Payroll Savings Plan to purchase Bonds monthly on an "automatic" arrangement with their banks. This program is intended for self-employed people and others to whom the advantages of Payroll Savings are not available.

Support this new campaign by devoting some of your advertising space to the "Buy Where You Bank" plan.

*The Treasury Department acknowledges with appreciation the publication of this message*



*This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and The Advertising Council.*





## FOR FULL-RANGE BRAKE CONTROL

● No one brake material can do it all—every wheel on every car has specific brake requirements.

Raybestos has developed 23 variations of brake lining materials—made by seven different processes—to do every brake job right. These brake linings come in correct combination to meet individual specifications. Each is engineered for *full-range* brake control, for easy, positive slow-downs and quick, smooth stops.

This means more than satisfied customers—it means more and more brake business for you. Today, at least 5 out of 10 cars need brake relines—sell them with *full-range* brake control.

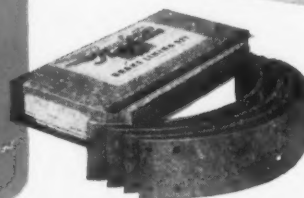
THE RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, Conn.

CHECK BRAKES  
RELINER WITH



# Raybestos

AMERICA'S BIGGEST SELLING BRAKE LINING  
RAYBESTOS-MANHATTAN, INC.



*Ray-BOND*

AVAILABLE  
NOW!

Raybestos is ready now  
with new undrilled brake  
lining sets for use with  
bonding equipment.  
Contact your Raybestos  
jobber.

PG Proving Ground Tested BRAKE LINING • BRAKE BLOCKS • CLUTCH FACINGS • FAN BELTS • HOSE for Cars, Trucks, Buses and Tractors



## Easy on the eyes — and ears

**S**TANDING still or sweeping by, it stands out unfailingly from the rest, unmistakably a Buick and unquestionably the year's trimmest fashion plate.

But only in *travel* does one of these tidy new beauties reveal how smooth and silent is its flow of power, how hushed and quiet is its ride.

This comes from many things. From Fireball power now Hi-Poised for throbless smoothness. From a Vibra-Shielded ride that is ever-present protection against road-noise, body-drum and vibration build-up.

And it comes, in addition, from a brand-new development we call Sound-Sorber top lining.

It's a thick pad of feathery insulation much like that used in homes, and it goes into every closed model in our 1948 SUPER and ROADMASTER series.

This new lining cloaks Buick in new, living-room silence—silence that encourages normal-tone conversation, makes soft radio music clear and enjoyable throughout the whole car.

So there's quiet as well as beauty when traveling in this style star.

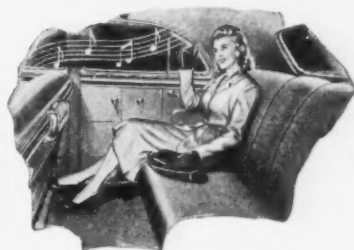
And car-buying America finds it a great-hearted lovely that is soft of voice and gentle of manner — a delight to the traveling ear, the guiding hand and the passing eye.

All of which explains why, with more and more motorists, it's Buick and nothing but Buick!

**BUICK DIVISION OF GENERAL MOTORS**

### THEY SHALL HAVE MUSIC— WHEREVER THEY RIDE

Front seat or back, occupants listen to the radio at soft and undistorted volume in this new Buick. They talk without shouting, know freedom from rumble and din. Always cars of quiet comfort, the Buick SUPER and ROADMASTER step out still further with Sound-Sorber top lining — a Buick exclusive.



Tune in HENRY J. TAYLOR, Mutual Network, Mondays and Fridays

When better automobiles  
are built  
**BUICK**  
will build them

### **BUICK** alone has all these features

- ★ DYNAFLOW DRIVE (Optional, Roadmaster Series)
- ★ TAPER-THRU STYLING ★ VIBRA-SHIELDED RIDE ★ SAFETY-RIDE RIMS
- ★ HI-POISED FIREBALL POWER ★ QUADRUFLEX COIL SPRINGING
- ★ FLEX-FIT OIL RINGS ★ ROAD-RITE BALANCE
- ★ RIGID TORQUE-TUBE ★ SOUND-SORBER TOP LINING (Super and Roadmaster)
- ★ DUOMATIC SPARK ADVANCE ★ TEN SMART MODELS ★ BODY BY FISHER



New John Bean Cadillac weights—designed to fit wheels with large hub caps. Available in 1/2, 1, 2 ounce sizes.

NEW IMPROVED

*"Taper-Fit"*

*John*  
**BEAN**

**WHEEL WEIGHTS**

The "Taper-Fit" design of the new John Bean wheel weights make them attractive, inconspicuous, and what's most important, easy to use. They fit under white side-wall rings . . . snap on quickly . . . will not scrub or fly off. Now available in 1/2, 1, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, and 6 ounce sizes.

JOHN BEAN MFG. CO.  
Division of FOOD MACHINERY CORPORATION  
LANSING 4, MICHIGAN 

WHEEL ALIGNERS AND CORRECTION TOOLS . . . WHEEL BALANCERS  
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**MORE MOTORISTS USE MORE SIMONIZ  
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"Motorists know they can trust a Certified Simoniz Station to give them the best of everything. First of all that means only genuine SIMONIZ and Simoniz Kleener—they want no part of inferior or more expensive substitutes. By featuring certified SIMONIZ service I do a greater over-all business, too—make bigger profits on all my services and accessory sales the year 'round."

*Wayne Rezab*

BUSTER'S STANDARD SERVICE  
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Now, more than ever, motorists are insisting on genuine SIMONIZ and Simoniz Kleener. That's why they look for the sign of the Certified Simoniz Station—why you can increase *all* your service and accessory sales by displaying this famous mark of quality. Remember, too, that SIMONIZ is constantly building new business for you through tremendous national advertising—a greater continuous campaign than all others combined! Find out how to make yours a Certified Simoniz Station. Write today for all details.

*Let us also show you how to set up your SIMONIZ service!* By offering a complete SIMONIZ service you can greatly increase your profits! Send now for the FREE operation and promotion manual that gives you the clear, step-by-step procedure.

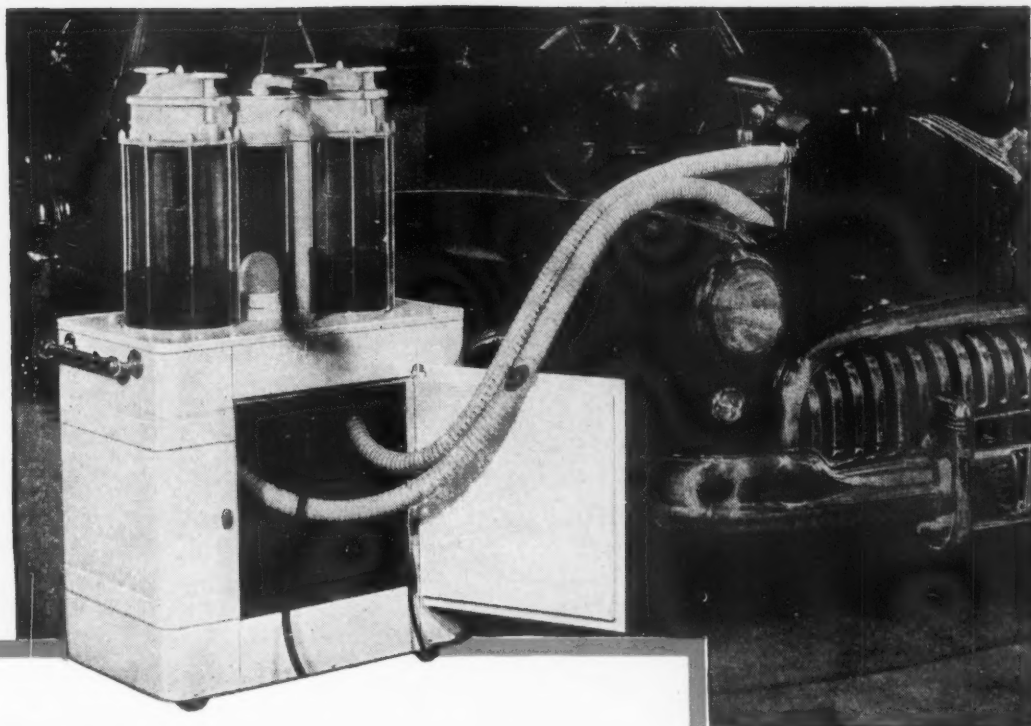
**THE SIMONIZ COMPANY, CHICAGO 16, ILLINOIS**

**"My Certified Simoniz  
Station means depend-  
ability to customers—  
bigger, all-around  
profits to me!"**



**Motorists Wise SIMONIZ**

TRADE MARK REG.



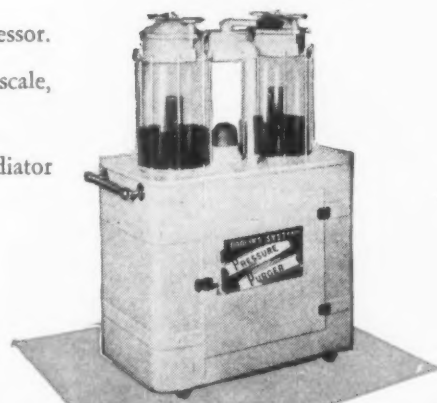
**PRESSURE-PURGER IS AS IMPORTANT TO YOUR SERVICE OPERATION AS A BATTERY CHARGER, A LIFT, PIT OR AIR COMPRESSOR.** *Call Your Jobber.*

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- Visible cleansing action loosens, dissolves, and filters out rust, scale, grease and grime.
- Triple-action, continuous reversing motion thoroughly cleanses radiator and motor-block water jackets.
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3. Pre-Heated Chemical Solution



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▲ voltage regulator is a precision instrument. It is the nerve center of the automotive electrical system. Unless the regulator is new, precision made and adjusted—profit is a matter of speculation on every installation. Returns can be costly in handling and customer dissatisfaction.

Electra provides a complete line of voltage regulators that match original equipment. They are completely new from terminals to platinum contacts. They are tested and adjusted under conditions simulating severest operation. They are sealed to prevent unskilled attempts at adjustment, and they offer low price that is competitive with rebuilt models without requiring any trade-in handling. Ask your jobber or write Electra direct about the full profit in voltage regulators.

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APRIL, 1948

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Why stock different types of ignition cables?

**HERE'S ONE CABLE  
THAT'S BETTER ALL WAYS**

## PACKARD FOUR-FORTY

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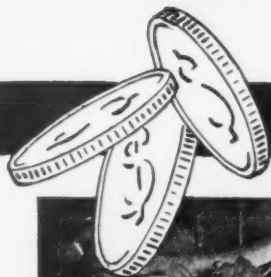
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REG. U.S. PAT. OFF.  
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Packard Electric Division, General Motors Corporation  
Warren, Ohio

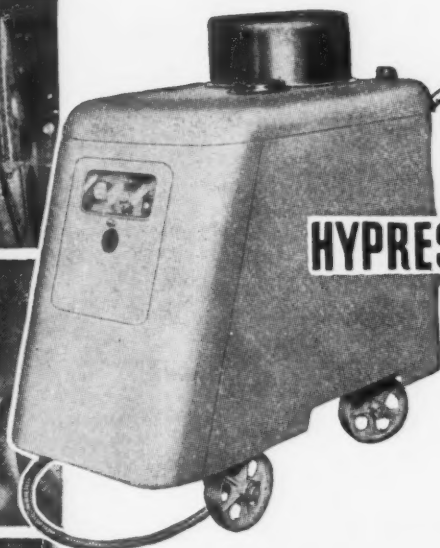
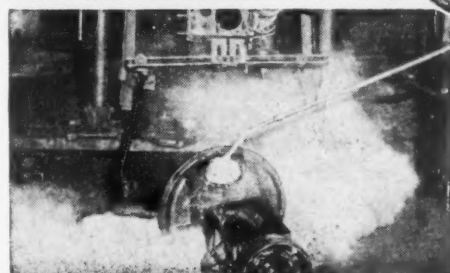


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**FOREMOST BUILDER OF AUTOMOTIVE AND AVIATION WIRING**



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**GET MORE BUSINESS**

**MAKE MORE PROFITS**

**SAVE TIME LABOR AND EXPENSE**

**N**EW BUSINESS will start rolling in almost from the first day you put Hypressure JENNY Steam Cleaner to work for you.

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Hypressure JENNY will increase your profit on repair jobs, too. For JENNY Steam Cleaning *before* repairs cuts repair time practically in half by saving up to 40% of your mechanics' time usually lost wiping oil, dirt and grease from tools and equipment. Hypressure JENNY reduces shop maintenance expense by cleaning grease racks, pits, runways, floors, walls, windows, etc., 8 to 10 times faster than by hand methods.

Hypressure JENNY Steam Cleaner is a sturdy, compact, portable unit easily moved from one cleaning job to another; and is so safe and easy to use that ordinary labor can operate it.

Why not write today for complete information and the address of your nearest Hypressure JENNY Dealer. There is no obligation.

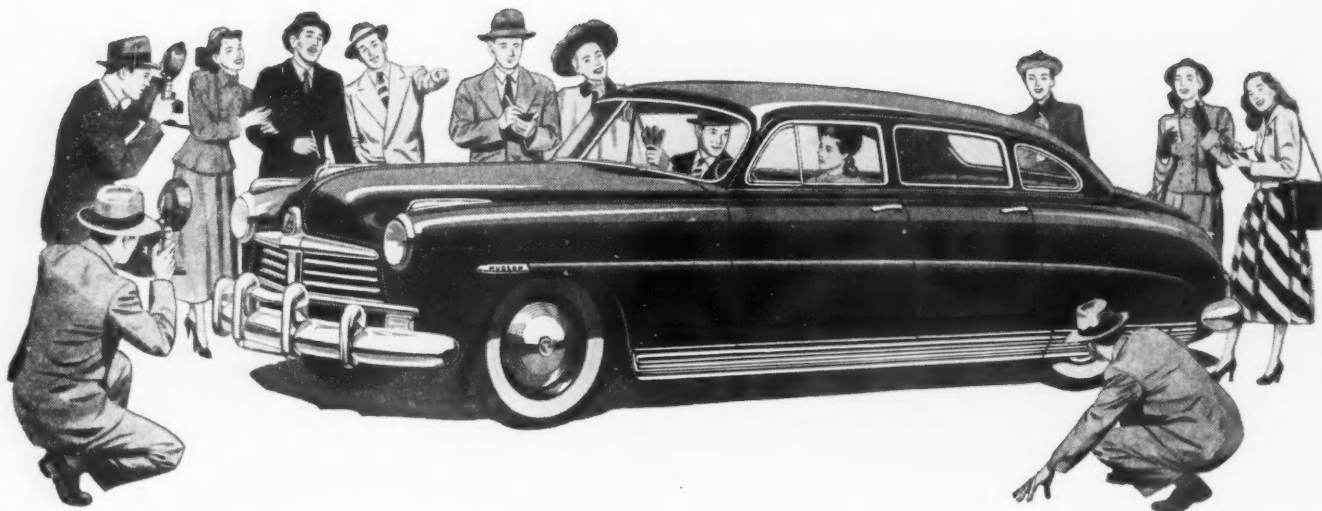
### The NEW ADJUSTA-BLAST GUN For Use With Hypressure JENNY Steam Cleaner

... gives the operator instant, finger-tip-control of the right type and amount of spray or water for any cleaning requirement. The ADJUSTA-BLAST GUN more than doubles the cleaning efficiency of any Hypressure JENNY now using the old type cleaning gun. It is easy and simple to attach. Ask your dealer about it when you purchase your new Hypressure JENNY Steam Cleaner.

**HYPRESSURE JENNY DIVISION**  
**HOMESTEAD VALVE MANUFACTURING COMPANY**

P. O. BOX 95

CORAOPOLIS, PA.



# The experts go overboard *"This time it's Hudson*

the only car you step down into!"



**A**N AUTO-WISE Detroit editor writes, "Hudson . . . will be in a sellers' market after the buyers' market returns!" A Cleveland motor-car writer, "The public is in for a thrill!" From a San Francisco auto editor's column, "Hudson has really hit the jackpot!"

Writers for two national publications, who make a specialty of testing new products, have given the New Hudson highest praise. And so it goes—right around the nation!

**It's no wonder!** Hudson is the only American-built motor car you step *down* into when entering, not *up* on! This new development brings you sensational advantages — among them, newly streamlined beauty.

This new kind of motor car is only five feet from ground to top, yet by stepping down, you get *more* head room and *roomier* seats than in any other mass-produced car built today—and there's good road clearance, too!

**Because you** step down, Hudson's new, all steel Monobilt body-and-frame\* completely encircles you, even outside the rear wheels, with a rugged, box-steel foundation frame—and this brings added safety.

You ride within this frame—cradled between axles—not on top of a frame as in the past. Hudson's new, lower center of gravity and rugged basic structure give this car delightful roadability—a hug-the-road way of going, especially on curves, that is unlike anything you've known before.

**This amazing** new motor car has given Hudson dealers great advantages—a type of automobile no one else in America is prepared to build today—selling features no other group can match today!

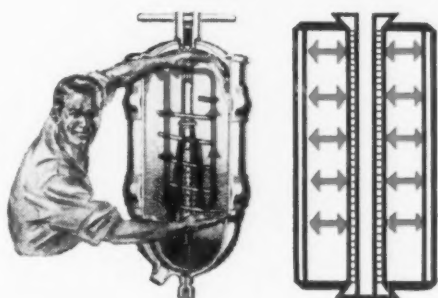
\* Trade-mark and patents pending

• HUDSON MOTOR CAR COMPANY • DETROIT 14, MICHIGAN •





in engine building approve DeLuxe Oil Filters . . .



**DIAGRAM**

illustrates DeLuxe L-O-N-G oil travel from bottom to top (left) versus short side-to-center travel in other filters.



*New* Better Oil Cleansing  
Cartridges for ALL Filters

"DeLuxe is now offering replacement elements for other popular makes of filters. Not another line of just "cotton packs" but well engineered, field tested, automatically wound elements of superior construction for uniform density and uniform efficiency in operation. Write for free folder."

R-2722

Many of America's leading manufacturers of trucks, buses and engines are using DeLuxe Oil Filters as standard or optional equipment. Their products are built upon a firm foundation of research, product investigation and tests. They have extensive facilities to check and re-check the materials, parts and accessories they use or approve. They have arrived at one uniform conclusion regarding oil filters—DeLuxe's thorough oil cleansing makes it an outstanding filter for oil-saving, repair and cost-cutting service.



A DeLuxe longer-travel filter is not just a "sludge catcher", it's a *Sludge Preventer*. Here's why you can sell DeLuxe with confidence and profit:

In a DeLuxe, the impurities which chemists call "asphaltenes" are removed from motor oil as they develop—before they can combine to form engine-destroying sludges or damaging piston varnish.

A DeLuxe Filter Cartridge cannot pack down and quickly become useless, for it is firmly supported by a sturdy built-in spiral spring. A metal cone feeds oil from the bottom, so it travels the *entire length* of the cartridge. Dirt and metal particles drop into a sump, where they may be removed by unscrewing a drain plug. No cartridge clog!

DeLuxe Filters are available through DeLuxe jobbers nation-wide. SEE YOURS TODAY! DeLuxe Products Corp., 1404 Lake St., LaPorte, Ind.





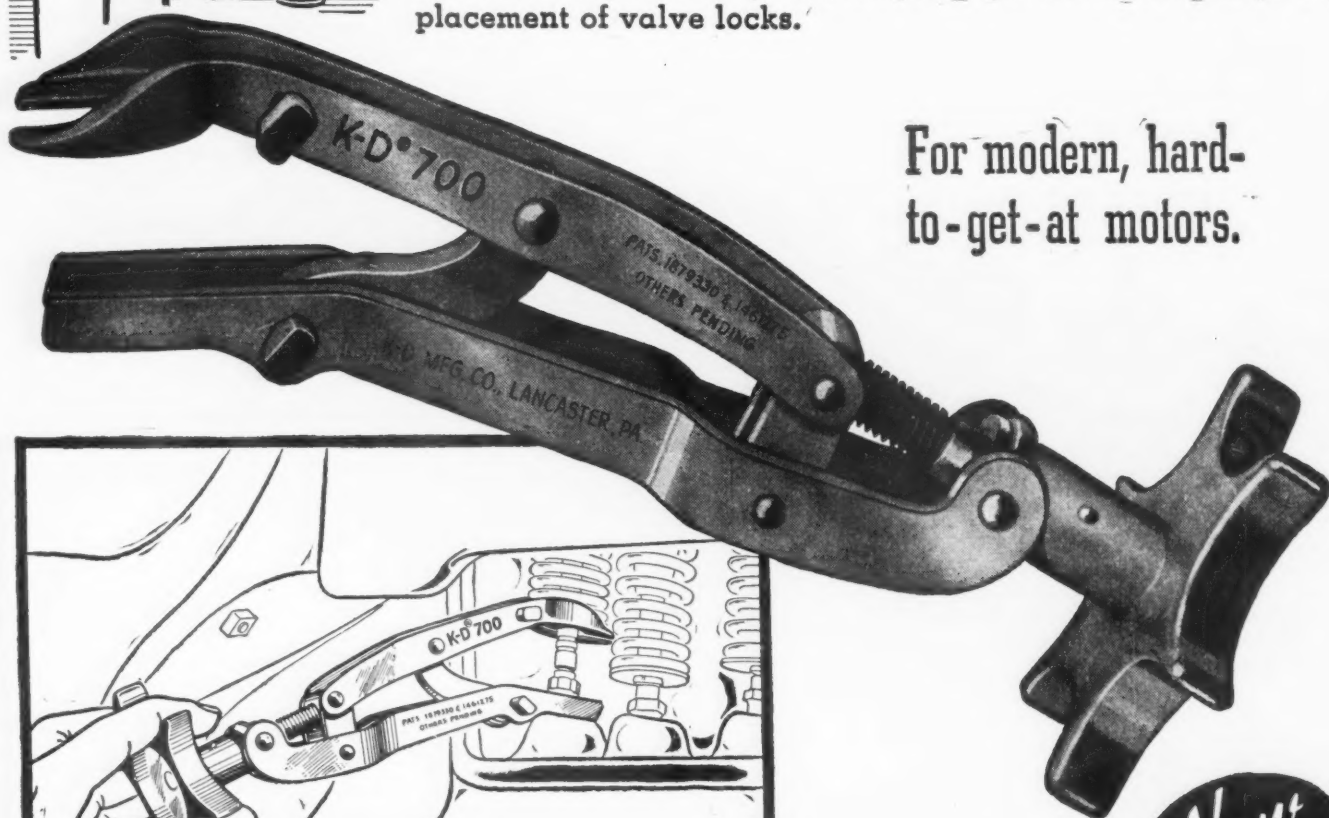
mechanics are talking about the

# K-D® 700

## Valve Spring Lifter

It's new... and only 8" long! K-D's 700 Lifter for deep-set engines works under fenders or manifolds. Easy turning handwheel raises and lowers jaws. Locks *automatically* at any height. Simple, fast!

Small... the K-D 700 allows you to get at tough rear valves with one hand. Hardened jaws, adjusted with thumb screws. Designed for quick, simpler operation and easy replacement of valve locks.



For modern, hard-to-get-at motors.

*New*

K-D MANUFACTURING CO., LANCASTER, PA., HAMILTON, ONTARIO

**K-D TOOLS—at Jobbers everywhere**

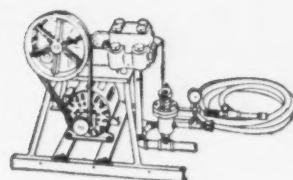
# CURTIS AIR COMPRESSORS

Assure Long Life  
Run Smoothly, Quietly  
Assure Low Cost, Dependable Service

*Here's Why:*

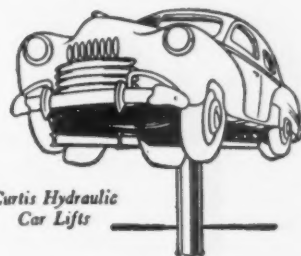
*Curtis Advantages include:*

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2. Timken Bearings
3. Self-Oiling
4. Positive Unloaded Starting
5. Enclosed Design—Slow Speed
6. Copper finned inter-cooler
7. High and low level oil gauge
8. Fan flywheel
9. Tank—deep penetrating welds



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*Write for Bulletin C-6 on Curtis Air Compressors, Curtis Auto Lifts and Curtis Hydraulic Car Washers.*



*Curtis Hydraulic Car Lifts*

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C-593A

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for FORD and MERCURY SERVICE

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No. 577



No. 568

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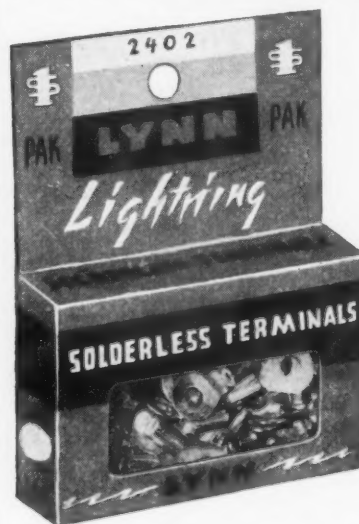
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**THE PAK**

A New and  
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- Only one price—\$1.00 per PAK, available in 25 different numbers.



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If your Jobber cannot supply you write us for complete details and descriptive circular.

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Buy and install the equipment you want. It will pay for itself as it earns for you.

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**ONE CONTRACT . . . ONE COST  
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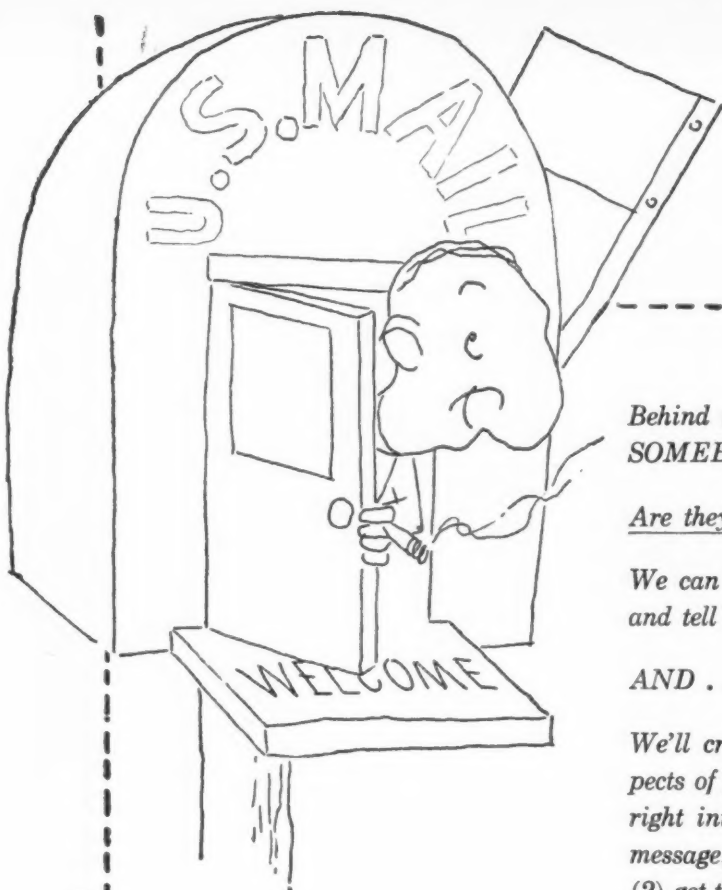
*If you don't know about A E P . . . ask your jobber.*

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SOMEBODY'S CUSTOMERS AND PROSPECTS.*

*Are they yours? Can you reach them?*

*We can tell you. We can qualify them, and locate them,  
and tell you their names. They'll be your prospects, then!*

*AND . . .*

*We'll create, produce and **DISTRIBUTE** to these prospects  
of yours . . . right **THROUGH** their mailboxes, and  
right into their hands, and right before their eyes . . . a  
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(2) get the results you want.*

*We'll make these prospects your **CUSTOMERS!***

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**IT'S NEW...**  
for **TRUCKS** and **BUSES**

# DELCO SUPER 11

## HEAVY-DUTY BRAKE FLUID

Developed during the war  
for heavy military vehicles.  
Now available for heavy-  
duty truck and bus service.

Moraine Products introduces *Delco Super 11*—a brand new hydraulic brake fluid developed to meet the severest requirements of truck and bus braking even under extreme conditions of load, road and weather.

*Delco Super 11* maintains its full efficiency throughout an extended range of temperature, from 325° of heat down to 60° below zero—vapor-free when brakes run hot, easy-flowing even in arctic weather.

*Delco Super 11* meets every standard for heavy-duty brake fluid as specified by the S.A.E. and by U. S. Army Specifications 2-111... *Delco Super 11* maintains the efficiency of pistons and cylinders—free from gumming, fouling and corrosion... *Delco Super 11* preserves rubber parts—safe from swelling and rotting... *Delco Super 11*, in short, safeguards the braking system and maintains maximum braking performance.



### DELCO SUPER 9 BRAKE FLUID

Proved superior to ordinary fluids through long years of use, remains unsurpassed for service in passenger cars and light trucks.



**DELCO BRAKE—A UNITED MOTORS LINE**  
Available Everywhere Through  
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**MORaine PRODUCTS DIVISION OF GENERAL MOTORS**

# Delco

SUPER 9 AND SUPER 11 BRAKE FLUID • DECLINE • BRAKE PARTS  
STANDARD FOR EQUIPMENT • THE STANDARD FOR REPLACEMENT

## A black and white photograph of a large industrial complex, likely a steel mill. On the left, a tall, multi-story building features the word "PITTSBURGH" in large letters. To its right is a long, low industrial building with several windows and a tall chimney stack. In the foreground, a large, flat, open area, possibly a parking lot or a cleared field, is visible. A small airplane is flying in the sky above the buildings. The overall scene depicts a major industrial facility.

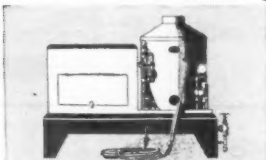
## Yes, Satisfied Customers Built This Splendid Plant

Today, little businesses and big businesses... by the thousands and thousands... know that the key to scientific cleaning is represented by the bright green Kelite label. They know every Kelite product is reliable... efficient.

## The Kelite Service Engineer



Through helpful, capable service and modern, scientific products—he will demonstrate the key to Kelite success.



## Tivit Steam Cleaner

Cleans twice as fast as others! Simple . . . trouble-free . . . low-cost . . . made and guaranteed by Kelite.

**It Is The Results** achieved through pH Control that have led thousands of users to select Kelite... have made it possible for Kelite to build unsurpassed facilities *for serving you!*



During the War it was known as "a barrel of man-hours."

Today every Kelite barrel, drum or carboy is helping business achieve greater efficiency and economy.

**Manufacturing Plants in Los Angeles,  
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**Advanced Industrial Chemicals**  
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# KELITE

## SCIENTIFIC CLEANING THROUGH pH CONTROL



O'Brian  
**BUICK**



## How would your display room look FROM HERE?

Do passersby get a clear, unobstructed view of your cars? Does your storefront call attention to the automobiles it displays instead of to itself? Is it a salesman that works after hours to remind people of your new cars and services?

These are worth-while questions to ask yourself if you are planning to remodel or build. Consider a Visual Front, typified by the one shown above. Note the emphasis on visibility . . . how glass is used to create a striking display effect. Simple. Forceful.

A Visual Front works on the principle that buying starts with seeing—and that close inspection of a product grows from a quick glance. A Visual Front is practical . . . glass keeps its look of newness for years. It's easy to clean . . . doesn't need refinishing.

Write for our Visual Fronts book. It's full of ideas for you and your architect. Libbey-Owens-Ford Glass Company, 5448 Nicholas Building, Toledo 3, Ohio.



**LIBBEY • OWENS • FORD**

*a Great Name in* **GLASS**

Architect: Jack Swerman, Chester, Pa.

### MATERIALS RECOMMENDED

**FOR TRANSPARENT AREAS—**  
L-O-F Plate Glass, ground and polished for maximum freedom from distortion. To insulate glass areas, specify *Thermopane*®. Its panes are separated by sealed-in, dehydrated air. *Thermopane* keeps interiors warmer in winter—more comfortable the year 'round. In areas that might be subject to impact, specify *Tuf-flex*® tempered plate glass.

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to bring in light and assure privacy, use Blue Ridge Patterned Glass for walls and partitions. This beautiful glass is ideal for smart-looking windows or walls in lavatories.

**FOR SOLID AREAS—**colorful *Vitrolite*® glass facing is easily washed with water and a squeegee. It keeps its luster, doesn't need refinishing and is unaffected by weather. It does not warp, swell or craze.

\*®

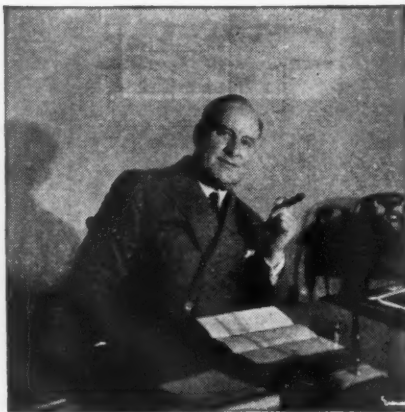


# PICTURE QUIZ: Which of these five people gives the right reason for buying U.S. Bonds?

(ANSWER BELOW)



**1. Easy to save!** "I'm putting my money into U. S. Bonds because it's the *easiest way* for me to save. Under the Payroll Savings Plan, I put aside a regular amount each week for Bonds. So far, I've saved \$500 without missing the money!"



**2. Good investment!** "Getting back \$4 for every \$3 I invest—the way I will in ten years' time with U. S. Bonds—is my idea of a *good investment*. I know it's safe and sound, too, because it's backed by Uncle Sam. Buy Bonds, I say."



**3. Plans for the future!** "Ten years from now, the money I'll get for my U.S. Bonds will help to send my kids to college, or buy our family a new home. I think that buying U. S. Bonds is the wisest thing a family man can do."



**4. Fights inflation!** "I want America to stay economically sound. That's why I'm putting all our extra dollars into U. S. Bonds. It's like buying a share in our country's future prosperity!"



**5. Rainy day!** "Maybe a rainy day's coming for me. Maybe it isn't. But I am taking no chances. That's why I'm buying all the U. S. Bonds I can through my Payroll Savings Plan."

## THE ANSWER

Every one of these people gives the "right" reason—because there's more than one right reason for buying U. S. Bonds.

Whichever way you buy them—through Payroll Savings, or your local bank or post office—U.S. Bonds are the best investment you can make!

## Save the easy way..buy your bonds through payroll savings

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**Cars stop on a dime but**

*profits never stop*  
with the **DELCO  
BRAKE LINE**



You give your customers "tops in stops" when you service brakes with Delco parts and products. For Delco hydraulic parts, cylinders and fluid are original equipment on leading makes of cars. That's your assurance of quality materials and workmanship . . . your assurance of a huge ready-made market for Delco brake service.

Like other United Motors lines, the Delco Brake line is an original-equipment line. You get fast-moving parts for everyday service, and parts for older model cars. All the profit possibilities are *yours* when you provide Delco Brake Service.

Look over the list of United Motors lines below. It offers you the leading automotive parts and products in the field . . . with each line backed by individually planned sales programs, merchandising helps and latest catalog information. United Motors can help you expand your business and profits. Talk it over with your United Motors distributor . . . or write United Motors Service direct.

**ANOTHER  
PROFITABLE**

# UNITED MOTORS LINE

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DIVISION OF GENERAL MOTORS CORPORATION

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**AC Fuel Pumps, Gauges**  
**and Speedometers**  
**INLITE Brake Lining**  
**SAGINAW Jacks**

**DELCO Radio Parts**  
**HYATT Roller Bearings**  
**DELCO Auto Radios**  
**DUREX Gasoline Filters**  
**HARRISON Heaters**  
**DELCO Home Radios**

**DELCO Shock Absorbers**  
**NEW DEPARTURE**  
**Ball Bearings**  
**GUIDE Lamps**  
**HARRISON Thermostats**

**DELCO Hydraulic Brakes**  
**KLAXON Horns**  
**HARRISON Radiators**  
**DELCO-REMY Starting,**  
**Lighting and Ignition**

# MOTOR AGE

## Covers the BUYING POWER in the Automotive After-Market

MOTOR AGE has a total monthly press run of 67,700. Its total paid circulation is 65,653.

It reaches 24,489 Car and Truck Dealers out of a total of 40,410.

It goes to 36,982 Independent Maintenance Establishments out of a total of 55,694.

It has 3,749 Jobber subscribers out of a total of 7,982. In other words MOTOR AGE reaches approximately two-thirds of the automotive retail establishments, and since its subscription staff is salaried and completely controlled, this circulation is highly selective, quality coverage. It represents preponderantly managers and proprietors of the larger and more important establishments — men with buying power and money to implement it.

### —RENEWAL PERCENTAGE 71.15%—

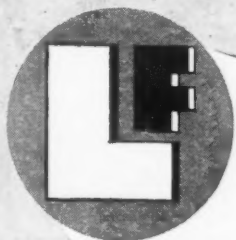
The popularity of MOTOR AGE with its readers may well be measured by its subscription renewal rate, which is 71.15% — the highest for any directly competitive publication.

## MOTOR AGE

*A CHILTON Publication*

Chestnut and 56th Streets ① Philadelphia 39, Penna.





# the Show's the thing...

Cleverly and arrestingly designed in steel, produced in color combination of blue, yellow and red. Approximately 6" x 8", it is constructed for counter or wall use, packed in individual shipping cartons. No jobber or dealer should pass up this profit-making deal!

Item	Quantity
1AG2	10
SFE4	10
SFE6	10
SFE9	20
SFE14	30
SFE20	170
SAG30	20
SFE30	20
	300

## ONLY FUSE FOR AUTOS—

that combines in an exclusive design internal soldering and Littelfuse patented locked cap construction. This is your positive guarantee against mechanical failures. 100% inspection for electrical continuity. Major suppliers of circuit protection to the electronic industry for 20 years. Littelfuse now is supplying all the major automotive manufacturers.

## ONLY AUTO FUSE DISPLAY

—now available to jobbers and dealers for that vital point-of-sale responsibility. Auto Littelfuses will show up to your customer—a sure-fire fuse profit booster. The convenient way to handle, check and sell your stock.

## ONLY FUSE COMPANY—

to be a step ahead in providing full support of a high-powered merchandising program behind a complete fuse line with supporting items.



In the spotlight, this new automotive star! Here is that ideal combination of outstanding "actor" plus a superlative "show" and supporting "cast." The success of this Littelfuse "salesman" shown here to sell, is as sure as the dependability of Littelfuses. For the first time, Auto Littelfuses are displayed in keeping with the superiority of the product—a quality display for quality merchandise at strictly competitive prices. Littelfuses are available in the whole range of sizes necessary for servicing all cars, light trucks and car radios. Made to SAE specifications, the SFE fuse line is listed by Underwriters' Laboratories.

**FUSE APPLICATION CHART**—is only a part of a full quality merchandising program to complement a

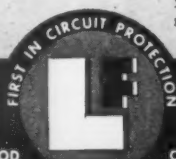
complete quality fuse line. The Auto Littelfuse Application Chart—included with each display—is greatly simplified and condensed. Price sheets are designed in proper color combination for quick information and promotion.

**INTENSIVE PUBLICATION ADVERTISING**—rounding out this potent promotion, an intensive and hard-hitting magazine advertising campaign has been released. Watch for it monthly.

**WHEN YOU'VE GOT THE QUALITY**—the show's the thing to make new, steadily increasing profits and maintain your reputation for selling only the best. So write for new and complete details without delay.

**LITTELFUSE**

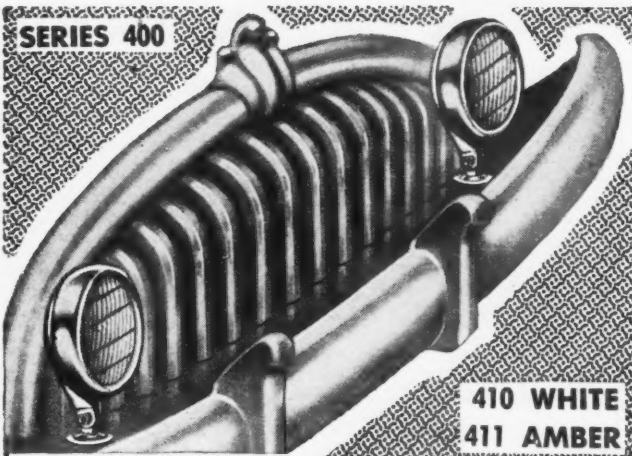
4785 NORTH RAVENSWOOD



*Incorporated*

CHICAGO 40, ILLINOIS

WIRE-T-LITE • SWITCH-LITE • IGNITION-PRIZ • NEON INDICATORS • SWITCHES • CIRCUIT BREAKERS • FUSES, MOUNTINGS & ACCESSORIES



## FOG - KING LAMPS

TELEOPTIC'S expert engineering has produced these extra shallow driving lamps to fit the design of newer cars. Beautifully finished in chrome plating with brass doors and housings these new Teleoptic lamps project a sharp, horizontal beam

*write us for full information*

**TELEOPTIC** **RACINE,**  
**WISCONSIN, U.S.A.**  
 Manufacturers of Quality  
 Directional Signals • Clearance & Marker Lamps  
 Fog Lamps • Stop Lamps • Driving Lamps  
 "O-K Pass" Courtesy Lamps

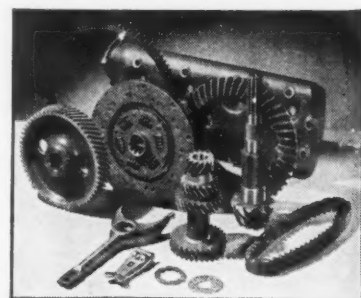


If you think *THIS* is a prize...turn to pages 94-95.



**PERFECTION  
PARTS**

are  
*Certified to excel*



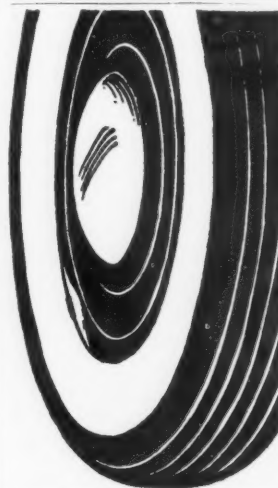
**PERFECTION GEAR CO.**  
**HARVEY, ILLINOIS**

**INSIST ON A  
"NATIONAL"**

You register a bull's eye in comfort and convenience every time you register at an Affiliated National Hotel. For a perfect score in service too, you can't miss if you make it a National whenever you're in one of these convenient National cities.

ALABAMA HOTEL ADAMS BRASS HOTEL THOMAS JEFFERSON HOTEL WASHINGTON	MISSISSIPPI HOTEL LAMAR HOTEL PATTON HOTEL CLOVIS HOTEL ALDRIDGE	LOUISIANA HOTEL CLAYPOOL HOTEL BORDO HOTEL BORDO HOTEL BORDO	NEW ORLEANS HOTEL BORDO HOTEL BORDO HOTEL BORDO	NEW MEXICO HOTEL CLOVIS HOTEL ALDRIDGE HOTEL ALDRIDGE	OKLAHOMA HOTEL ALDRIDGE HOTEL ALDRIDGE HOTEL ALDRIDGE	TEXAS HOTEL STEPHEN F. AUSTIN HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD	FLORIDA HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD	GEORGIA HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD	SOUTH CAROLINA HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD	COLUMBIA HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD	VIRGINIA HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD	MOUNTAIN LAKE HOTEL BROWNWOOD HOTEL BROWNWOOD HOTEL BROWNWOOD
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*Affiliated*  
**NATIONAL HOTELS**



**SNUGL**  
 FAD-A-WAY  
 AUTOMOTIVE  
 WHEEL BALANCE WEIGHTS  
 TRUCKS • BUSES • PASS. CARS



PAT. NO. { D-119-321  
 D-5188  
 2,056,757

**MID-WESTERN AUTO PARTS**  
 FACTORY  
 824 E. Elm Kokomo, Indiana

BRANCH:  
 734 S. GREENLEAF  
 WHITTIER, CALIF.

**Business-Winning Extra Value**



**GATKE**  
 Blue Ribbon  
 Sets of

**GROOVED  
DURA-BLOK**

See your GATKE Jobber or write

**GATKE CORPORATION** 236 N. La Salle St.  
 Chicago 1, Illinois

## Save Time and Effort WASH TRUCK AND CAR BODIES The Oakite Way

You can get streak-free surfaces in less time and with less effort, when you wash your truck and car bodies with that "safe", scientifically formulated, quick-acting material...

### OAKITE COMPOSITION NO. 70

Because of its more effective detergent properties, Oakite Composition No. 70 thoroughly removes all dirt, grease and grime... restores original bright-looking appearance to painted surfaces by removing color-dulling traffic film. Oakite Composition No. 70 is easy to use and rinses readily even when allowed to dry down. This widely-used material may be applied with complete safety to such surfaces as paint, lacquer and enamel... will not affect decals or top varnish coats.

### Oakite DATA Helps FREE!

Your nearby Oakite Technical Service Representative will gladly send you details of how this material can save you time, effort and money... he will give you a convincing on-the-spot demonstration. His personal services involve no obligation. Write to him today!

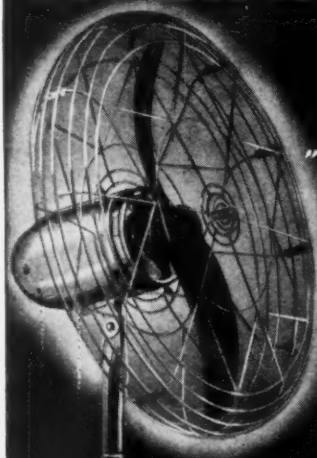
OAKITE PRODUCTS, INC., 240 Thomas St., NEW YORK 6, N. Y.  
Technical Representatives in Principal Cities of U. S. & Canada

# OAKITE

REG. U. S. PAT. OFF.

**Specialized Industrial Cleaning**  
MATERIALS • METHODS • SERVICE

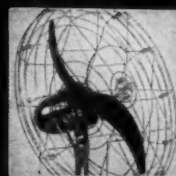
## FRESH'ND-AIRE



*"Successor to the fan"*

#### CUSTOM-BUILT FRESH'ND-AIRE MOTOR

... precision engineered for a life-time of quiet, current-saving power.



FEATHER-LIGHT  
PLASTIC  
PROPELLER  
... advanced aviation principles move more air, more quietly, more efficiently.

### Out-performs and out-lasts any other air circulator on the market

Without ever causing blasts or drafts, Fresh'nd-Aire does all this: completely circulates air, expels stale and over-heated air, disperses fumes, boosts air-conditioning circulation, and cuts heating costs in thousands of the world's best known stores, factories, offices, hotels and restaurants.

Fresh'nd-Aire adds to everyone's comfort, increases worker efficiency. And there's a Fresh'nd-Aire Circulator to fit every need! Write for information and name of your nearest suppliers.

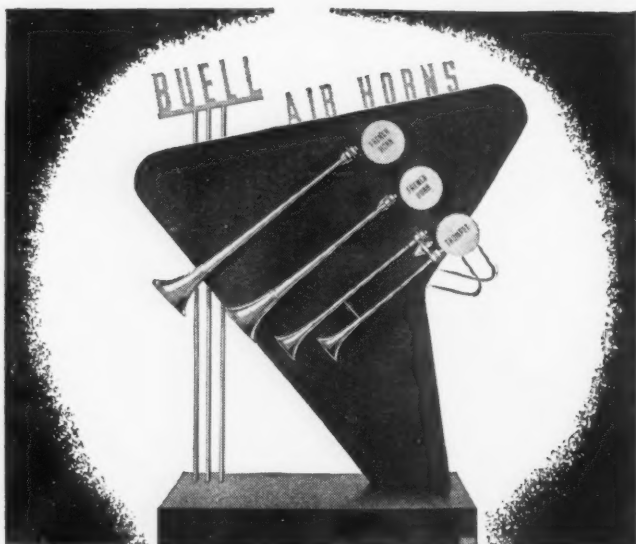
Its noise level is so low that it's the only circulator permitted inside many radio broadcasting studios and telephone exchanges.

## FRESH'ND-AIRE Air Circulator



Products of FRESH'ND-AIRE COMPANY  
A Division of CORY CORP. • 221 N. LaSalle St., Chicago 1, Ill.  
Export Sales: The A. J. Alsdorf Corp., Chicago, Ill.





## BUELL MERCHANDISER

### Brings Big Dealer Profits

Up to \$30 profit on each set of Buell Air Horns. Let the "Buell Merchandiser" be your salesman. Prospects sell themselves on sight.

The merchandise—and your sales—are both *guaranteed*. Write for deposit price, guaranteed sales plan, and sales results of other dealers.

**BUELL MANUFACTURING CO.**  
2991 So. Cottage Grove Ave., Chicago 16, Illinois

**POCKET  
FAST, EASY  
EXTRA  
PROFITS**

SELLING, INSTALLING  
THE *new*  
**Autone**  
AUXILIARY SPEAKER




Eliminates  
Distraction

Car Wide  
Reception

Sales will soar to new highs when you display the NEW AUTONE AUXILIARY SPEAKER. Over 25 million motorists are ready prospects! They want the full, rich "Living Room" reception that AUTONE will give their car radios; they want the inexpensive luxury of a rear seat, separately controlled radio speaker, the pleasant, safe convenience of complete reception at low level volume. The New AUTONE is a high quality speaker. Display it in your showroom with our dealer aids . . . it will sell itself. Your service department, too, will reap extra profits by installing these popular units easily, quickly. Retail at \$9.95 complete with switch, cable, etc., plus installation. Long discount, big markup for you. See your jobber or write:

**NORTHERN PRODUCTS COMPANY**  
6349 N. Clark Street Chicago 26, Illinois

## CHECK SPRING TENSION!

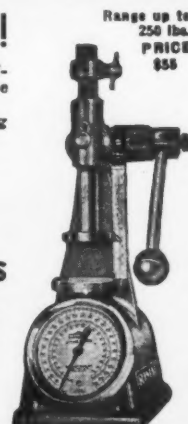
A PERFECT valve grinding job can't give efficient engine performance unless all valve springs function properly. Insure every motor overhaul job by checking spring tension with

## RIMAC SPRING TESTER

For VALVE and CLUTCH SPRINGS

Used in production and recommended for service work by leading manufacturers of automobile, airplane, truck and tractor motors.

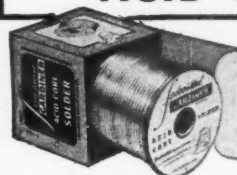
**RINCK-McILWAINE, INC.**  
16 Hudson Street, New York 13



*Federated*

**GARDINER**  
BRAND

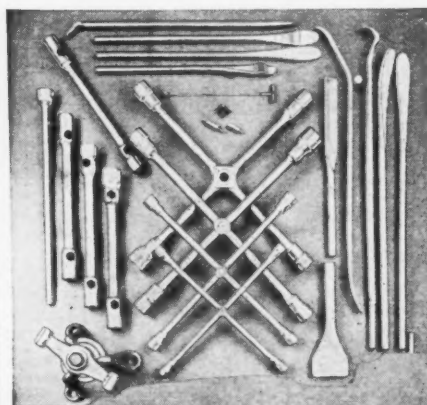
## ACID CORE SOLDER



A free flowing and easy-to-use ACID CORE SOLDER for automotive and general work. You don't have to add any flux . . . the flux is in the solder. Comes in all commercial sizes and quantities.

*Federated*  
METALS DIVISION

AMERICAN SMELTING AND REFINING COMPANY  
WHITING, INDIANA (CHICAGO)



KEN-TOOLS  
**DESIGN**  
LATEST  
**QUALITY**

UNQUESTIONED  
SEE YOUR LOCAL  
JOBBER

KEN-TOOL MFG. CO.  
AKRON 5, OHIO

LARGEST EXCLUSIVE MFG.'S OF SPECIALIZED WHEEL AND TIRE CHANGING TOOLS KNOWN AND USED AROUND THE WORLD



For ANOTHER prize collection . . . turn to pages 94-95.

HAVE YOU SEEN IT?

# THE NEW Delco AUTO RADIO

NO PUSH-BUTTONS!  
—NO DIAL FUMBLING!

WITH EXCLUSIVE

**ELECTRO-TUNER**  
*Control*

## A REMARKABLE ACHIEVEMENT IN POSTWAR ELECTRONICS . . . BRINGS TO AUTO RADIO ITS FIRST TRULY AUTOMATIC TUNING!

Yes! . . . this is the auto radio they're all talking about—the auto radio that obsoletes even the very latest types of push-button and push-bar tuning!

It's the radio they all want, for the stations are tuned in one by

one, *automatically*, at the touch of a finger tip! With the new Delco it is no longer necessary to pre-set for desired stations . . . no longer necessary to employ push-button or even manual tuning!

### Fits all cars and trucks!

Think of the sales possibilities! Easily installed on any car or truck . . . easily transferred from one vehicle to another! When you consider these advantages, plus the new sales-help

### THIS DOES IT!



This is the magic "trigger tube" which sets up a separate sensitivity field and traps the stations, one by one!

program United Motors has for you, plus the fact that each sale is a big-ticket item—you've really got something!

For complete information, contact your nearest United Motors Service distributor or zone office.

## DELCO RADIO

### A GENERAL MOTORS PRODUCT

Delco radios are distributed nationally by United Motors Service. See your United Motors distributor about the Delco radio line.



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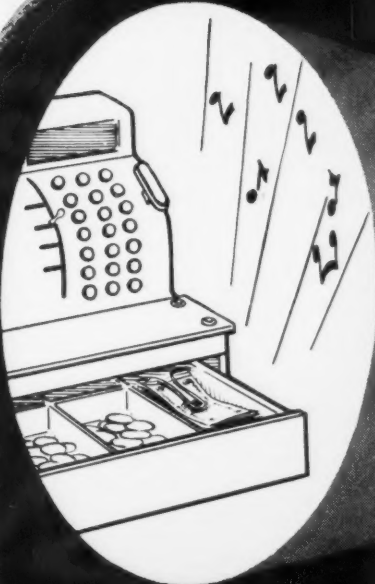
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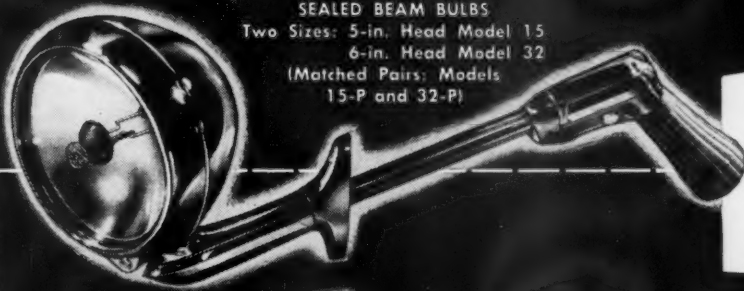
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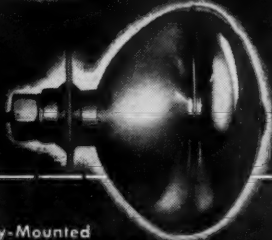
## SPOTLIGHT YOUR PROFITS...

SEALED BEAM BULBS  
Two Sizes: 5-in. Head Model 15  
6-in. Head Model 32  
(Matched Pairs: Models  
15-P and 32-P)



**Thomson**  
*Pistol Grip*  
**SPOTLIGHT**

Body-Mounted  
Model 335 (Pairs: Model 435)



Gravel Pan-Mounted  
Model 325 (Pairs: Model 425)



**Thomson**  
**BACK-UP LIGHT**

**Available  
Immediate**  
TEAR OUT—

**for  
Delivery**  
MAIL COUPON TODAY

If you're interested in PROFITS . . . and who isn't? . . . here's a line of lights that'll spotlight 'em . . . and fast! Thomson Accessory Lights—beautifully styled and mechanically perfect—are preferred by car and truck owners wherever seen. Every installation sells others. Dealers and service stations everywhere are most enthusiastic, because of standout quality . . . construction and convenience features that far outshine competition . . . driver preference . . . quick sales . . . and easy, profitable installations. Send coupon or wire for catalog sheets and details.

**STANDARD - THOMSON CORPORATION**  
Dayton 2, Ohio, U. S. A.

Standard-Thomson Corporation  
216 S. Main St., Dayton 2, Ohio

We are interested in full information on Thomson Lights.

We are: ☐ Jobber; ☐ Dealer.

NAME \_\_\_\_\_

FIRM \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_

STATE \_\_\_\_\_



**Chester J. Brost, Dodge Dealer, Buffalo, New York**

"I'VE BEEN a Dodge dealer for ten years, and before that I was one of the country's biggest dealers in lower priced cars. I knew all about the Dodge dealer agreement before I became a Dodge dealer. When the chance came, believe me, I signed one of those agreements myself. So far as I know, it's the only dealer contract of its kind in the world. It takes in two distinct

lines of cars and a great line of trucks. It affords a huge market potential, for car and truck sales, for parts sales, and for service. All in one single agreement. It's the best in the business."

**DODGE • PLYMOUTH • DODGE "Job-Rated" TRUCKS**

DODGE—DIVISION OF CHRYSLER CORPORATION  
7900 JOS. CAMPAU, DETROIT 11, MICH.